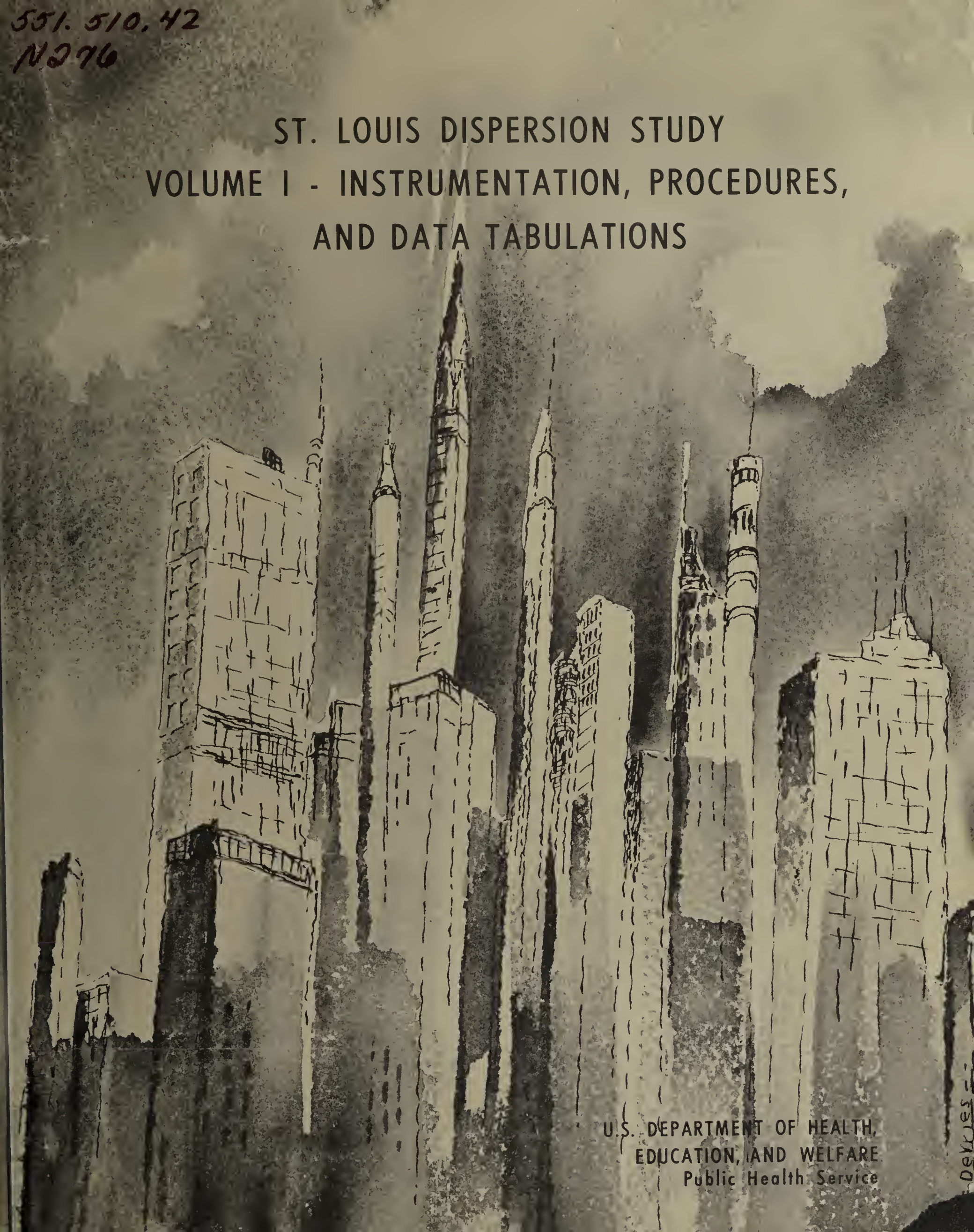


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ST. LOUIS DISPERSION STUDY
VOLUME I - INSTRUMENTATION, PROCEDURES,
AND DATA TABULATIONS



U.S. DEPARTMENT OF HEALTH,
EDUCATION, AND WELFARE
Public Health Service

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ST. LOUIS DISPERSION STUDY
VOLUME I - INSTRUMENTATION, PROCEDURES,
AND DATA TABULATIONS

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and

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Environmental Science Services Administration

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Consumer Protection and Environmental Health Service
National Air Pollution Control Administration
Durham, North Carolina
August 1968

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National Air Pollution Control Administration Report APTD-68-12

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ABSTRACT

The St. Louis Dispersion Study was designed to describe atmospheric transport and diffusion over an urban area, from analyses of the behavior of airborne tracer material released at a point source. A total of 43 experiments, including a test run, were conducted in seven series in urban St. Louis, Missouri, between May 1963 and March 1965. Part I of this volume describes the field sites, dissemination and sampling equipment, meteorological equipment, and operating procedures. Part II presents tabulations of the diffusion and meteorological data collected during the study.

ST. LOUIS DISPERSION STUDY

VOLUME I - INSTRUMENTATION, PROCEDURES, AND DATA TABULATIONS

INTRODUCTION

Most studies of atmospheric diffusion have been carried out over relatively uncomplicated terrain. The results of such programs as "Project Prairie Grass" (Barad, 1958) and the "Green Glow Diffusion Program" (Barad, et al., 1962) can be fitted within limits to a theoretical framework and they can be utilized to determine generalized diffusion coefficients with some degree of confidence. Although such investigations have yielded estimates of dispersion for urban areas, their direct applicability can be questioned, since the urban environment presents a different and more complex underlying surface than that encountered over open grassland or desert areas previously selected for diffusion programs. A primary objective of the St. Louis Dispersion Study was to describe dispersion over an urban area and to relate the dispersion to meteorological parameters. It should be emphasized, however, that this study was designed as a pilot program to indicate gross dispersion over an urban area; it was not to be an exhaustive investigation of atmospheric diffusion.

This program was jointly sponsored by the U. S. Public Health Service and the Environmental Science Services Administration. Between May 1963 and March 1965 seven series of tracer experiments were conducted in urban St. Louis, Missouri. These experiments were designed by personnel of the Air Resources Field Research Office, Cincinnati, Ohio (formerly Weather Bureau Research Station, Cincinnati, Ohio). Personnel from this facility as well as from the U. S. Public Health Service, the County of St. Louis, and Washington University (students) participated in the field program.

The initiation of a general study of air pollution in the St. Louis metropolitan area (U. S. Public Health Service, 1967) prompted the choice of St. Louis as the experimental area for investigation. Also, St. Louis met three additional desirable criteria: the city is in a reasonably flat area, removed from significant topographic features that would influence the large-scale air flow; weather radar equipment is operated by the Weather Bureau Airport Station as part of the national weather surveillance network; and the city is reasonably accessible from Cincinnati.

The objectives of this volume are (1) to describe the sites, equipment, procedures, and techniques used in planning and conducting the diffusion experiments, in measuring meteorological parameters, and in reducing and processing data; and (2) to present tabulations of the basic data and pertinent supplementary data. Part 1 mainly covers the first objective; Part 2 completely covers the second objective and includes some details of the first.

It is not the purpose of this volume to present analyses of the data, to evaluate existing diffusion models, or to devise new models. A preliminary analysis has been published by Pooler (1966), and a final report (Volume II of this study) will be issued by the sponsoring organizations.

PART 1 – INSTRUMENTATION AND PROCEDURES

TOPOGRAPHY AND GENERAL CLIMATOLOGY

As shown by the topographic map of Figure 1, the St. Louis terrain is gently rolling; elevations range from about 450 feet MSL in downtown St. Louis to about 550 feet at Lambert Field, 12 miles to the northwest (Walther, 1965). A slight ridge reaches 600 feet between the airport and the downtown area. A flat area, known as the American Bottoms, is encompassed by a crescent-shaped bluff rising to about 640 feet MSL and lies on the east side of the Mississippi River across from St. Louis. The average elevation of the Mississippi River is about 400 feet MSL and that of American Bottoms, 420 feet MSL.

The St. Louis area experiences a modified continental climate typical of most Great Plains cities not directly influenced by major geographic features. Winters are reasonably brisk but seldom severe; occasional short spells of extreme cold are intermingled with several periods of mild weather. A prevailing flow from the south and southwest causes warm, humid summers; spring and fall months have moderate temperatures. Spring months usually have the most violent storms (hailstorms, thundersqualls, and tornadoes) and the greatest frequency of stronger daytime winds. Precipitation occurs mostly as showers, with thunderstorms in summer; in winter, rains and occasional snows usually occur when moist air moves northward from the Gulf of Mexico.

ATMOSPHERIC TRACER NETWORK AND INSTRUMENTATION*

TRACER SYSTEM

Initially the investigators decided to use an existing tracer system, since the development of a new system with its attendant problems could consume both time and resources. To allow for oversights and for the sampling of different types of weather, it was decided to divide the experiments into several series over a 2-year period. After a review of available tracer systems (see, e.g., Dumbauld, 1963), the fluorescent particle system utilizing zinc-cadmium sulfide was selected. The components of this system and the total number of each component procured⁺ were 2 aerosol generators, 60 "Rotorod" samplers, 30 membrane filter samplers, and 10 drum-pulsed sequential samplers. Since this system and its properties are discussed in detail in Leighton, et al., (1965), only a brief basic description of the tracer material and the pertinent equipment is presented here.

Zinc-cadmium sulfide is an inorganic particulate capable of being fluoresced by near-ultraviolet radiation to form a continuous emission spectrum from red to blue with a maximum in the yellow. The fluorescence property is indefinitely maintained during storage and assessment. The substance is not affected by water or by heat up to 450°C; it dissolves slowly in acids; it has a decay half-life of fluorescence in milliseconds after the excitation source is removed; and, when suitable lots of the material are used, it is extremely stable even in long exposures to direct sunlight. Because of these and other properties, zinc-cadmium sulfide offers a simple and sensitive method of detection and quantitative evaluation.

The zinc cadmium sulfide materials used in the St. Louis tracer experiments were FP-2267, USRC Lots: 1320 with 1.71×10^{10} particles per gram (PPG) and 3.04μ mass mean diameter (MMD); 1339-1 with 1.61×10^{10} PPG and 3.10μ MMD; 1339-2 with 1.66×10^{10} PPG and 3.06μ MMD; 1339-3 with 1.64×10^{10} PPG and 3.08μ MMD; 1339-4 with 1.88×10^{10} PPG and 2.94μ MMD; 1339-5 with 1.83×10^{10} PPG and 2.96μ MMD; and, H-454 with 2.04×10^{10} PPG and 2.86μ MMD. The lots were pre-tested for fluorescence and size distribution and were fluidized by a private laboratory.

*Mention of commercial products does not constitute endorsement by the Public Health Service.

⁺The total number of each component of equipment was not necessarily used in each experiment; unused items served as backup equipment.

DISSEMINATION EQUIPMENT

The tracer was dispersed from an aerosol disseminator like that shown in Figure 2; power for the dispenser was obtained from a portable gasoline engine generator of 1.5 kilowatts rated capacity. In dissemination, fluorescent particles were fed from a stirred hopper by a rotating toothed wheel into the intake of a high-speed centrifugal blower and dispersed as an aerosol of single, primary particles. Feed rates could be varied between 1 and 250 grams per minute by changing the size and rotation rate of the toothed wheel.

SAMPLING EQUIPMENT

Drum-pulsed, Rotorod, and membrane-filter samplers were used in all of the St. Louis dispersion experiments. The drum-pulsed sampler (Figure 3) operated on the principle of impaction; air drawn at about 50 liters per minute through a slit nozzle impacted particles on the perimeter of a circular drum. A strip of black electrical tape, coated on one side with dilute rubber cement, was placed on the drum as the particle collector.⁺ Aluminum tape coated with silicone grease or brass shimstock sprayed with black paint and coated with silicone grease were used as collectors during the first two experimental series, but these proved inadequate. The drum rotated 3 degrees at time intervals from 1 to 4 minutes, selected to provide up to 120 individual deposit patterns to yield a sequential time resolution of the passage of the tracer cloud. Vacuum was furnished by a 1/3-horsepower pump operating on 110-volt AC power.

The Rotorod sampler (Figure 4), a battery-operated impaction sampler, moves the collector through the air rather than pumping air past the collector. Particles were collected on the edges of spinning H-shaped collector rods coated with silicone grease. The samplers were attached to the batteries with 16-inch lengths of aluminum corner molding. The batteries were equipped with straps for easy attachment to trees, light standards, and other such structures. This portable sampling unit yields a measure of total dosage. Flow rate was about 40 liters per minute, and collection efficiency depended on the size distribution of the fluorescent particles.

The membrane filter sampler, which also yields a measure of total dosage, operates by drawing air through a 1-inch-diameter membrane filter at a rate determined by a critical orifice in the base of the filter holder (Figure 5). The filters, made of cellulose acetate-nitrate, have a collection efficiency of almost 100 percent; virtually all of the particles are deposited on the upstream

⁺The counting of particles collected on the deposition areas of samplers was performed on contract by a private laboratory. For details of the assessment techniques consult Brown and Webster (1964).

filter face rather than within the filter pores. Vacuum was supplied by a 1/6-horsepower pump operating on 110-volt AC power. The filter holder was attached to the top of an 8-foot section of 1/2-inch pipe, the filter facing downward and the pipe being maintained erect in a mounting attached to the base of the pump.

TRACER RELEASE SITES AND SAMPLING ARCS

Considering the climatology of the St. Louis area and evaluating potential tracer release sites, the investigators selected a site in the southeast corner of Forest Park, primarily to accommodate the prevailing westerly flow. The relationship of this site to the metropolitan St. Louis area is shown in Figure 6. The dissemination site is situated about one-third of the way down a gradual slope. A few scattered trees are in the area and the McDonnell Planetarium, located at the top of the rise, were not thought to cause significant interference. The site of the dissemination and the downslope direction of dissemination are shown in Figure 7.

Three concentric sampling arcs for this site were then selected east of Forest Park at nominal distances of 1/2, 2, and 4-1/2 miles; these arcs are numbered 1, 2, and 3, respectively, in Figure 6. Sampling sites were at nominal 6-degree intervals. Distances and azimuths of all sampling sites from the tracer release points were measured on U. S. Geological Survey, 7-1/2-minute quadrangle maps (scale 1:2400). Many compromises were made in the location of sampling sites to accommodate logistic requirements.

Before the second series of experiments, the roof of the Knights of Columbus Building (Figure 6) was chosen as a second release site to allow disseminations during southeast to southwest flow. This three-story building is in the midst of trees and buildings of comparable height. The roof measures about 75 feet by 100 feet; the long axis is nearly north-south and the short axis, east-west. A parapet skirts the eastern and southern sides of the roof, its height varying from 2-1/2 feet on the east and 3-1/2 feet on the south to about 5 feet on the northeast, southeast, and southwest corners. Disseminations were made from the unobstructed northwest corner of the roof. Sampling sites for this second release point were chosen at nominal 6-degree intervals on three concentric arcs at nominal distances of 1-1/4, 2-1/2, and 5 miles. These sampling arcs, numbered 4, 5, and 6 (Figure 6), extend west through north to east, or, to the Mississippi River.

As the experiments continued, changes were made in the azimuth spacing in some of the sampling arcs. After the third series of tests the number of sampling sites on arcs 3 and 6 was doubled so that narrow plumes that might exist during stable conditions could be defined better. At this time, other adjustments were made in the arcs to yield more uniform spacing between adjacent sites

and to provide more negotiable driving routes for servicing crews. Before the fifth series of releases, sampling sites at nominal 3-degree intervals were chosen along a seventh arc (Figure 6), concentric on the Knights of Columbus Building site at a nominal distance of 10 miles, to allow for longer travel times during unstable conditions.

As an aid in defining the types of underlying surface passed over by the tracer clouds, a land-use description of the metropolitan area was determined and delineated in Figure 6. The categories listed in the key to this figure describe the existing types of structures.

During the last four experimental series, a tethered Aerokyte balloon (shown in Figure 22) was equipped to secure estimates of total FP dosage in the vertical. Rotorod samplers were attached at varying intervals to the nylon tethering line; the method of attachment is illustrated in Figure 8.

METEOROLOGICAL INSTRUMENTATION

FIXED NETWORK

In the Spring of 1963 before the first experiments, a network of sites was established and instrumented to obtain climatological information on airflow patterns and thermal stability in the lower levels of the St. Louis area and to provide meteorological data during experiments as an aid in analyzing tracer results. Wind instruments (Aerovanes) and hygrothermographs were installed at three sites on the periphery of the urban area. These sites (Figure 6) were at Lindberg High School, Missouri State Police Station C, and Hazelwood High School. The KMOX-TV tower near the center of downtown St. Louis (Figure 6) was originally instrumented with Aerovanes at two levels (127 and 459 feet) and with temperature and temperature-difference equipment at three levels. In May 1964 another Aerovane was installed at a third level (255 feet), and in October 1964 a bivane was installed at the 127-foot level. Data collection from this network ceased in June 1965, two months after the final series of experiments.

Lindbergh High School Site

The area surrounding Lindbergh High School is relatively flat and open, with some trees and a few residences. A standard U. S. Weather Bureau hygrothermograph, like that mounted at this site, is shown in its Louvered Stevenson shelter in Figure 9. Maximum and minimum thermometers and psychrometers were utilized to maintain quality control on hygrothermographs. This station was originally located on a close-clipped lawn about 300 feet west of the high school. In January 1965, after incidents of vandalism to this installation, it was moved about 1/4 mile west of the original site to a close-clipped lawn about 100 feet in front of the Melville District Fire Station. The Aerovane wind transmitter was placed about 20 feet above the roof of the main Lindbergh High School building (Figure 10) and about 60 feet above the ground.

An Aerovane wind transmitter is shown in Figure 11. Wind speed was sensed by the impeller, whose threshold starting speed is about 1-3/4 miles per hour. Wind direction was sensed by the streamlined vane. Wind speed is directly proportional to the speed of rotation of the impeller blades and is a function of voltage generated by a magneto (Bendix Aviation Corp., 1956). Values for the wind speed and direction were electrically transmitted and recorded continuously on a two-channel recorder. Range of wind speed was 0 to 100 miles per hour on one channel; range of wind direction was 540 degrees of azimuth, allowing for crossover, on the other channel. Speed of chart rotation was 3 inches per hour.

Missouri State Police Station C Site

The area around Missouri State Police Station C is relatively open, gently rolling country. A few residences are in the general vicinity; the most prominent building in the area is a new four-story hospital about 1/2 mile south of the station. The hygrothermograph installation was situated on a close-clipped lawn about 60 feet west of the station. The Aerovane transmitter was attached to the end of an 8-foot boom on the west side of the broadcasting tower and about 85 feet above ground. The station and tower, which is about 20 feet wide at the base, are shown in Figure 12. Interference to air flow through the tower, mainly from the east, did not appear to be significant.

Hazelwood High School Site

The terrain in the vicinity of Hazelwood High School is open and gently rolling, with trees and a few residences interspersing the area. The Aerovane transmitter was placed about 20 feet above the southeast edge of the roof of the high school gymnasium (Figure 13) and about 60 feet above ground. The hygrothermograph installation was on the close-clipped lawn of the high school premises about 100 feet south of the gymnasium.

KMOX-TV Tower

The KMOX-TV tower (Figure 14) is located about 150 feet northeast of the intersection of 13th and Cole Streets near the center of downtown St. Louis; the tower reaches 563 feet above street level (468 feet MSL). Since the structures in the vicinity of the tower may have affected the records of the meteorological instrumentation placed on the tower, land usage in this vicinity is shown in Figure 15. The types of structures and their approximate heights above street level are described in the key to this figure. The downtown area around the tower is also shown in the series of photographs comprising Figure 16, taken toward several azimuths from the 125-foot level of the tower. Streets near the KMOX-TV tower are generally oriented either north-northeast, south-southwest or east-southeast, west-northwest.

The Aerovane wind transmitters were attached to the ends of 6-foot booms extending from the northwest corner of the tower at elevations 127, 255, and 459 feet above street level. Interference to the air flowing through the tower from the southeast was noted in the records of the Aerovane located at the 459-foot level. The boom holding this Aerovane transmitter was extended about 3 feet in May 1964 to lessen this effect.

The instruments for measuring temperature and temperature difference at elevations of 124, 249, and 452 feet above street level were likewise extended on booms from the northwest edge of the tower. The temperature-recording system

consisted of aspirated "thermohms" (Leeds and Northrup Corp., 1958) operating on the resistance principle with copper-wire sensing elements (Figure 17); the data were transmitted electrically to a multi-point recorder. The temperature at the 124-foot level and the temperature differences from 124 to 249 feet and from 124 to 452 feet, all in degrees Fahrenheit, were printed in that order once every 6 minutes. At 6-month intervals, calibration checks were performed on the sensing elements by immersing each of them in a stirred ice bath with a mercury-in-glass thermometer. Maximum allowed temperature spread between the two elements was ± 0.1 degree Fahrenheit.

In late October 1964 an annular fin bivane (Figure 18) was installed at the 127-foot level on the same boom as the aerovane; the bivane was removed in March 1965. During the planning stages of the dispersion study it was recognized that direct measurements of turbulence, preferably with a bivane, should be obtained. A location allowing adequate exposure was not found, however, and as a compromise the instrument was installed on the KMOX-TV tower. Because of exposure difficulties and instrumental problems, valid turbulence data from this bivane were not attained during any of the tracer experiments.

SPECIAL OBSERVATIONS

Equipment for the special observations was operated only during tracer experiments. Data were used primarily in analyzing results of the tracer experiments.

Surface Winds at the Tracer Release Sites

During all experiments at the tracer dissemination sites, wind speed and direction were measured with a fast-response system (Figure 19), with sensors about 7 feet above the surface. Disseminations at Forest Park were made at ground level. At the Knights of Columbus site disseminations were made at the building roof level. Wind speed was measured by the rotation of three light-weight plastic cups whose threshold starting speed is about 0.5 mile per hour; the wind speed is proportional to the speed of cup rotation and is a function of the time rate of light pulses due to the rotation of a light chopper (Beckman and Whitley, Inc. 1955). Wind direction was measured by the streamlined vane. Values for wind speed and direction were electrically transmitted and continuously recorded on a two-channel recorder. Range of wind speeds was 0 to 12, 0 to 30, or 0 to 60 miles per hour on one channel, and range of wind direction was 360 degrees of azimuth on the other channel. Speed of chart rotation was 3 inches per hour. Inspection of wind traces indicated the effects of the respective site locations. At the Knights of Columbus Building release site, the wind system indicated mechanical turbulence due to the structures in the immediate area. For the wind directions for which tracer disseminations were made at the Forest Park site, the air flowed over a slight rise before reaching the wind instrumentation (Figure 7) and probably diverged, principally in the vertical, beginning at the leeward edge of the rise; this wind system may have been sensing this topographically induced irregularity in the air-flow structure.

Pilot Balloon Ascents

Winds aloft were measured during all experiments at the tracer dissemination site by single-theodolite observations of ceiling balloons. Observations were generally terminated after the balloons had ascended through the lowest 3000 feet of the atmosphere. At least two and as many as four ascensions were made per experiment.

Tetroon Releases

During all daytime experiments and during most evening experiments, beginning with the second series, a tetroon was launched about 15 minutes after the beginning of tracer dissemination. Tetroons are tetrahedron-shaped super-pressure

balloons (Figure 20) ballasted to float at a level of constant density; they have been used extensively to estimate air trajectories (Angel and Pack, 1960 and Pack, 1962). In this study tetron trajectories were used primarily to determine a "mean wind" during transit of tracer clouds across the sampling network. This was accomplished by tracking the signal transmitted from the 403 Mc transponder, attached to the tetron (Figure 20), with the U. S. Weather Bureau weather radar (WSR-57) located at Lambert Field (Figure 6).

Free and Tethered Radiosonde Ascents

In all daytime experiments beginning with the second series and in most evening experiments, a free radiosonde was released from the roof of the Federal Building in downtown St. Louis located at the intersection of 12th and Market Streets (Figure 6); the radiosonde was followed until the signal emitted by its transmitter was lost. Tethered radiosondes reaching to 1000 feet above the roof were usually substituted during the last two series of evening experiments. Release height was 636 feet MSL and 171 feet above street level (465 feet MSL) for the free flights. Soundings began between 0 and 15 minutes before the beginning of tracer dissemination. Temperature and humidity profile data used to compute mixing depths and thermal stability over the city were obtained from these soundings.

A standard U. S. Weather Bureau 403 Mc radiosonde, ballasted to ascend at about 500 feet per minute, was used for the free radiosonde launches (Figure 21). A 26.675 Mc aspirated radiosonde built by personnel of the Air Resources Field Research Office in Cincinnati was used in all tethered radiosonde ascents. Except for the receiver, the receiving and recording equipment was the same as that used with the free radiosonde. A tethered radiosonde and aerokyte balloon are shown in Figure 22.

OPERATING PROCEDURES FOR DIFFUSION EXPERIMENTS

The probability of running an experiment was estimated from forecasts prepared by the Weather Bureau. On tentatively suitable days a preliminary forecast to select a tracer dissemination site was made, followed by a more detailed forecast of expected wind direction variability. Sampling sites were selected on the basis of more detailed forecasts. Usually, the drum-pulsed samplers were placed to cover the uncertainty of the direction of the tracer cloud centerline; the Rotorod and membrane filter samplers were placed to bracket the expected cloud spread.

After the tracer release and sampling sites were selected, a tentative release time was set and the dissemination and sampling crews were briefed. All crews called in to the project director after they had finished setting out their equipment, usually no later than 1 hour before the tentative release time. Because of the uneven distribution of locations suitable for installation of drum-pulsed (sequential) samplers, compromises in the location of these samplers and of the total dosage samplers were often required. During the first three test series 30 to 35 samplers were installed; during later tests 40 to 50 samplers were used. Communications were maintained by two-way radios and telephone.

The final selection of sampling sites was based on a pilot balloon observation made at the tracer release site about 2 hours before the tentative dissemination time. If this observation indicated that the tentatively selected sampling locations would not adequately define the tracer cloud, a revised sampling network and new tentative release time were established.

A tracer release rate was then calculated on the basis of expected wind speed. Compromises in the calculations usually were required, greater weight being given to producing sufficient dosage at distant arcs than to avoiding an overdose at near arcs.

Expected travel times to the various arcs also were computed on the basis of the forecast and observed wind speeds. It was desirable that each sampler operate only during passage of the entire tracer cloud so that the collection of material that might obscure fluorescent particles would be minimal. For daytime experiments, sampling duration was calculated by assuming that the initial particles would travel at twice the speed of the mean wind through the convectively mixed layer (Pooler, 1964) and that the last particles would travel at $1/2$ to $2/3$ the speed of this wind. For the evening experiments during which more pronounced vertical wind-speed shear usually existed, it was assumed that the initial particles would travel at the speed of the winds above the pronounced shear layer (usually at or above 1000 feet); the last particles were assumed to travel at $1/2$

the speed of the surface wind until reaching the nearest sampling arc and, thereafter, at 1/2 the speed of the lowest winds recorded on the initial pilot balloon ascents until reaching the most distant arc.

The times required to run an experiment varied considerably. In the longest test, during which all delaying factors operated together, more than 9 hours elapsed from the time of original sampler layout until the last sampling crew checked in. During the last two series, after the crews had become thoroughly familiar with their duties and the locations of their assigned stations and when no delays occurred, several tests required less than 5 hours.

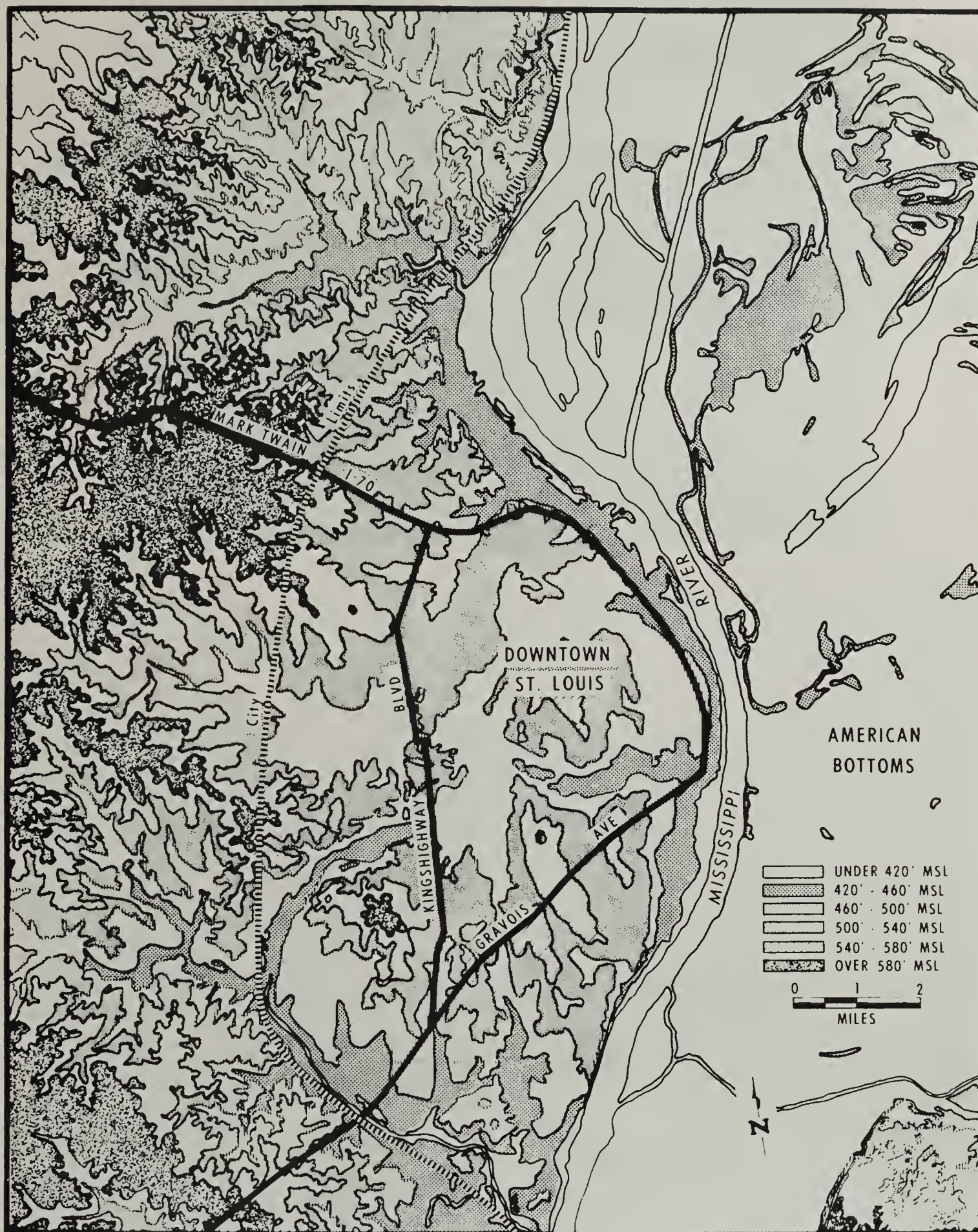


Figure 1. Topographic map of the St. Louis area.



Figure 2. Fluorescent particle dissemination generator.



Figure 3. Drum-pulsed sampler.



Figure 4. Rotorod sampler.

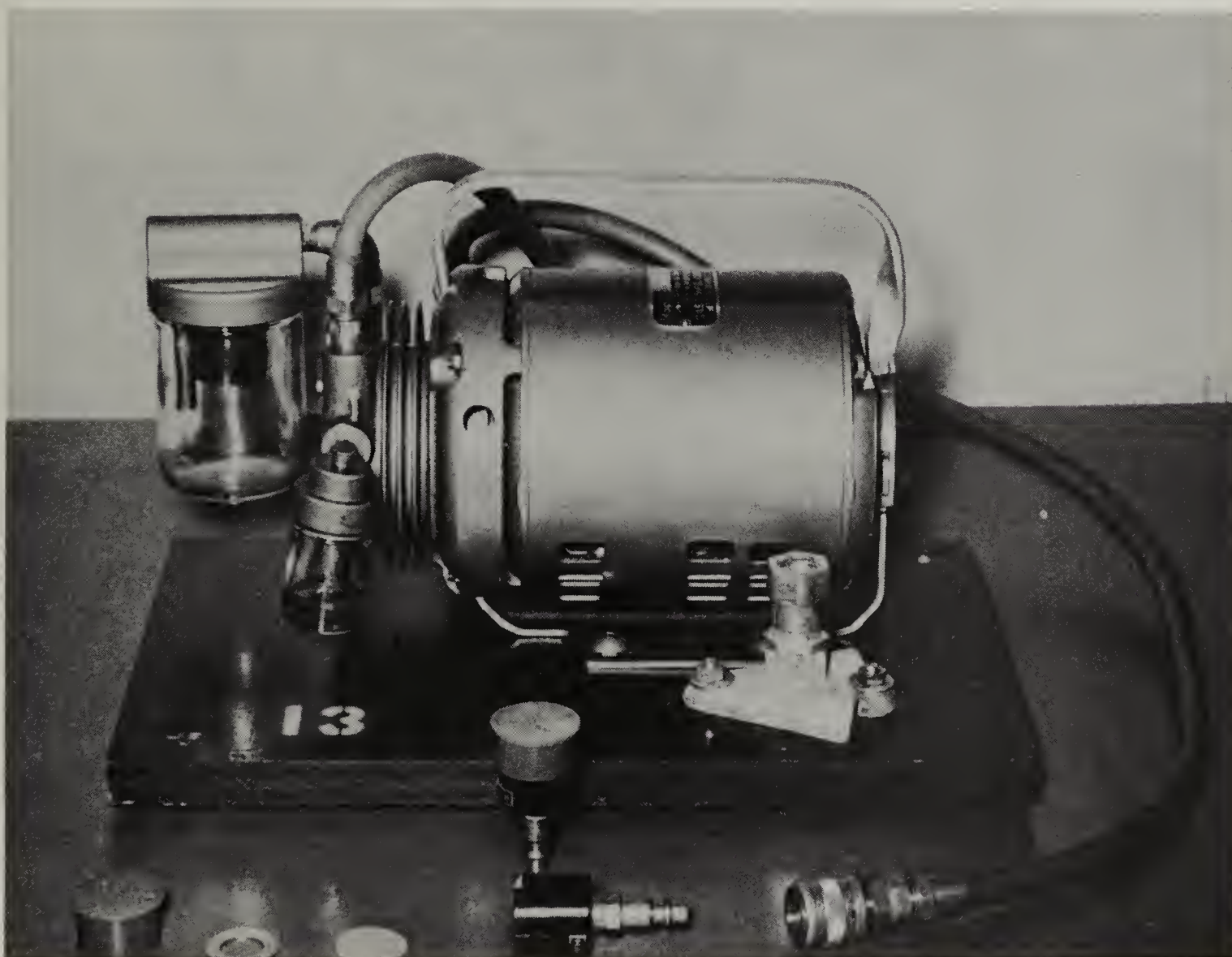


Figure 5. Membrane filter sampler.

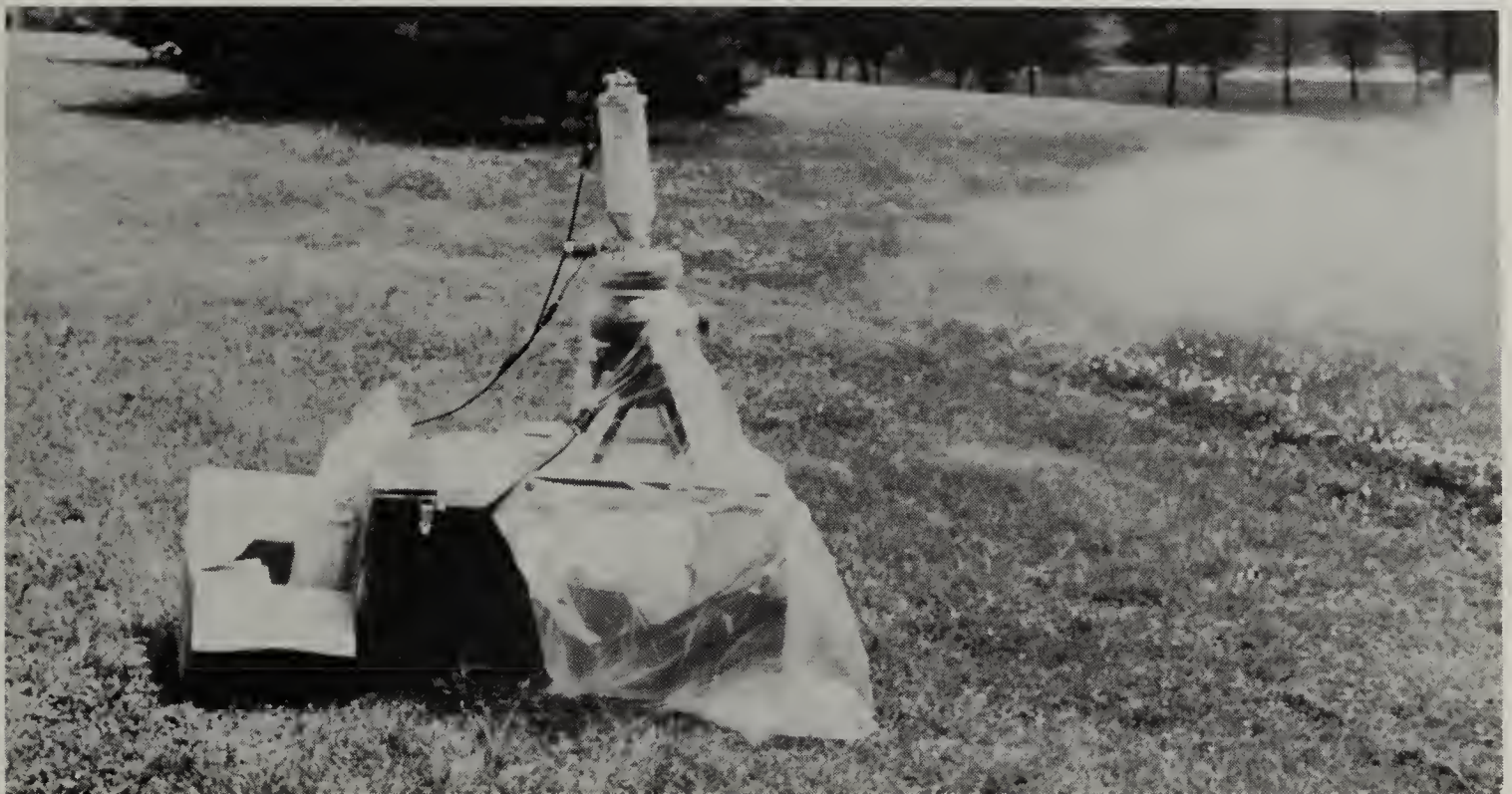


- METEOROLOGICAL SITES
- ▲ DISSEMINATION SITES
- SAMPLING ARCS
- PARKS, CEMETERIES, COUNTRY CLUBS.
- ▨ MODERN RESIDENTIAL AREAS—1-TO 2-STORY HOUSES WITH LARGE YARDS; FARMS OR OTHER LARGE OPEN AREAS INTERSPERSED.
- OLDER RESIDENTIAL AREAS OF 1- TO 3-STORY CLOSELY-SPACED HOUSES
- ⋯ BUSINESS THOROUGHFARES WITH BUILDINGS OF VARYING CHARACTER
- INDUSTRIAL AREAS — MANUFACTURING, WAREHOUSE, STORAGE; IRREGULAR HEIGHTS
- DOWNTOWN AREA — PUBLIC AND COMMERCIAL BLDGS. OF 4 TO 20 STORIES

Figure 6. Generalized land-use map of St. Louis area.



(a). View toward McDonnell Planetarium.



(b). View in direction of dissemination.

Figure 7. Forest Park dissemination site.



Figure 8. Rotorod sampler attached to tethering line.



Figure 9. Hygrothermograph, maximum and minimum thermometers, and psychrometer in louvered Stevenson shelter.



Figure 10. Aerovane on roof at Lindbergh High School.



Figure 11. Aerovane wind speed and direction sensor.



Figure 12. Missouri State Police Station C and transmission tower.



Figure 13. Aerovane on roof of Hazelwood High School.



Figure 14. KMOX-TV tower.

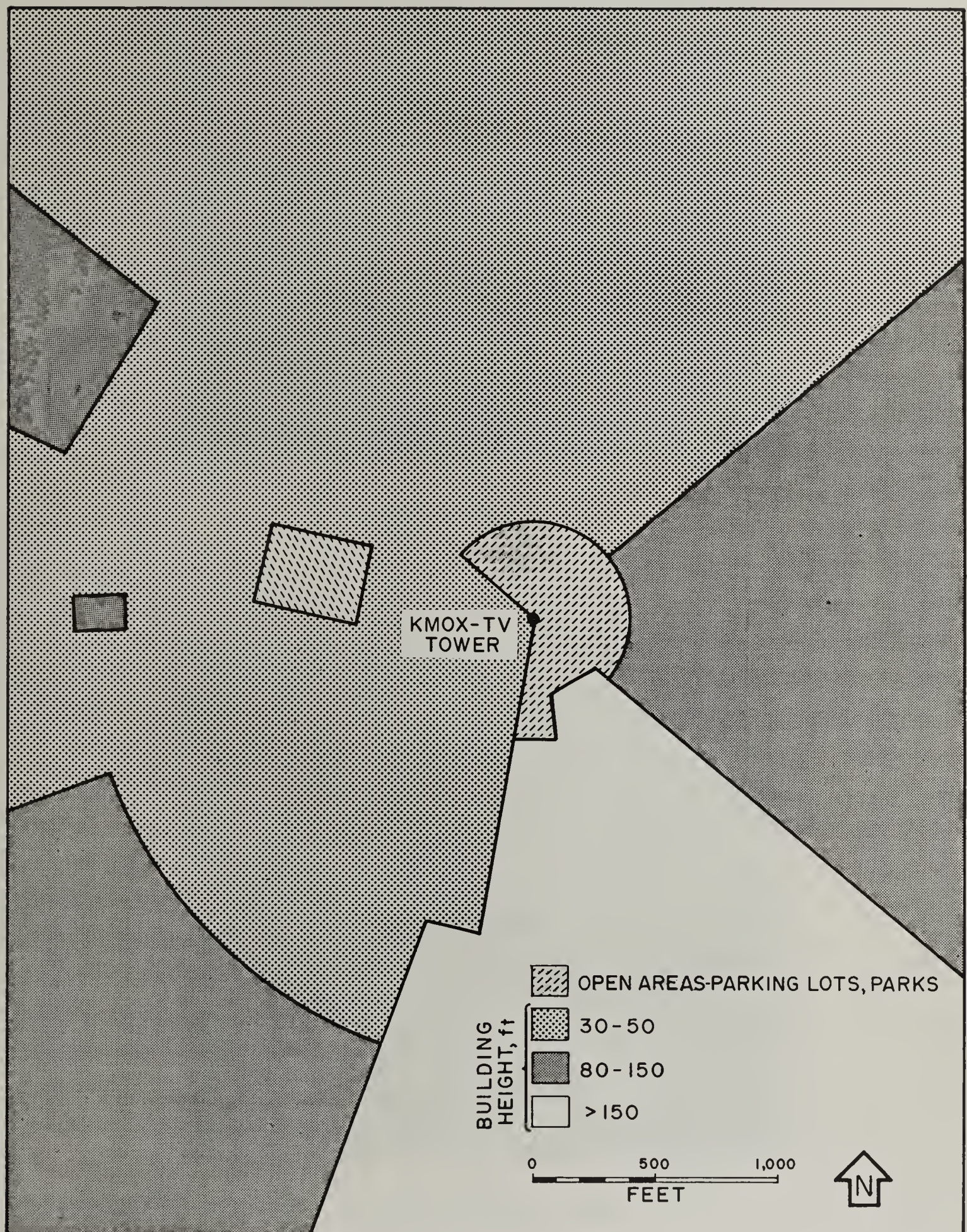


Figure 15. Land usage in vicinity of KMOX-TV tower.



(a). Looking North.



(b). Looking South.

Figure 16. St. Louis as seen from 125-foot level of KMOX-TV tower.



(c). Looking East.



(d). Looking West.

Figure 16 (Cont.) St. Louis as seen from 125-foot level of KMOX-TV tower.



Figure 17. Leeds and Northrup Thermohm unit.



Figure 18. Annular fin bivanometer.

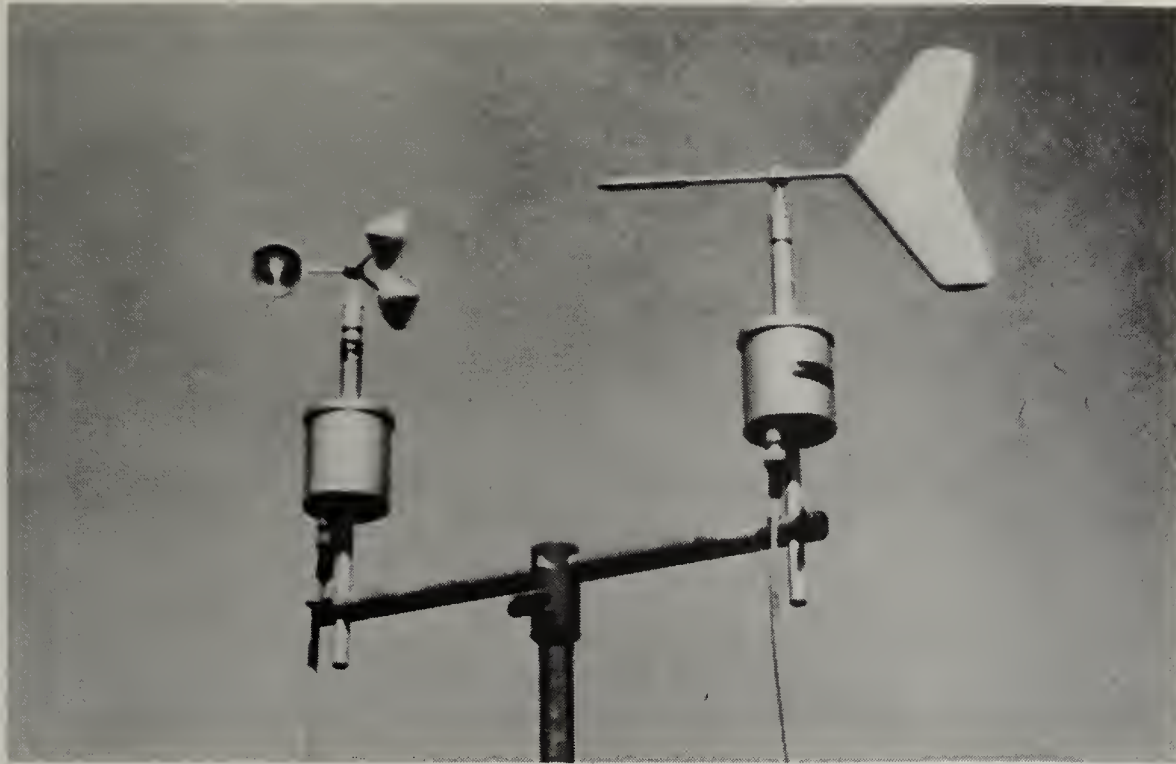


Figure 19. Beckman and Whitley wind speed and direction sensors.



Figure 20. Tetroon and attached transponder.



Figure 21. Free radiosonde ascent.



Figure 22. Tethered radiosonde ascent.

PART 2 - DATA TABULATIONS

INTRODUCTION

Part II presents in tabulated form the data collected in the St. Louis Dispersion Study. Supplementary meteorological data that might assist in analysis of results of the tracer experiments also are included. These data consist of tabulations of surface weather observations taken at the WBAS, Lambert Field in St. Louis; tabulations of rawinsonde soundings at Columbia, Missouri, and Peoria, Illinois; and surface and 500-millibar charts. An introduction to each set of tables describes the data and the format and gives other pertinent information.

A summary page for each experiment lists the available sampling and meteorological data and details of the dissemination; the summary also presents commentary on the sampling and on the existing synoptic situation.

As an aid in describing the Aerovane data and as a potential aid in analyzing the results of the tracer experiments, the highest, third highest, and fifth highest wind-direction and wind-speed ranges over 30-minute intervals were computed. The highest range was determined as the maximum value of direction or speed minus the minimum value; the third highest range as the third highest value minus the third lowest value, and the fifth highest range as the fifth highest value minus the fifth lowest value, over an interval.

All data are presented in the units measured. The adoption of a single, consistent set of units would have allowed more direct utilization of the reported data. For some measurements, however, a sacrifice of reported accuracy would be required to convert the units; for other measurements, a degree of accuracy better than that obtained in the measurements would be implied if conversions were strictly made.

During all experiments an air sample was taken approximately 1 mile upwind of the release site. The general location of the sample was designated by the project meteorologist. These samples were analyzed and found to contain no significant background count of FP material.

EXPERIMENT SUMMARY SHEETS

A summary sheet is presented for each of 42 experiments. Experiment One was a test run; no fluorescent particles were released. Sampling data collected during this experiment are presented in the tables to indicate background fluorescent particles in the St. Louis area.

Details of the tracer dissemination, including a list of the dissemination feed-voltage readings, are presented first. Because feed-voltage was at least qualitatively related to the rate of tracer emission, changes in emission rate are reflected by variations in this voltage; feed-voltage readings were normally made at 15-minute intervals during dissemination.

The types of fluorescent particle dosage data and meteorological data available for the experiment are listed next; incomplete data are noted. Any necessary commentary concerning dissemination and sampling follows. Whenever possible, comments concerning specific samplers are generalized, details being given as footnotes to the tables.

The final section of each summary sheet consists of a brief description of the existing synoptic situation and the surface and 500-millibar charts from the Daily Weather Map (U. S. Weather Bureau) nearest the time of the experiment.

Table 1. EXPERIMENT SUMMARY SHEETS

Experiment Two		
27 May 1963	Dissemination Site: Forest Park	Dissemination: 2102.0 gm
Sampling Arcs: 1, 2, 3	Dissemination from 1410 to 1440 CST	Lot Size No. 1320
<u>Disseminator Feed Voltage Readings</u>		
9.0 v (1415 CST); 7.5 v (1426 CST); 8.5 v (1438 CST)		
<u>Sampling Data</u>		
Total Surface Dosages		
<u>Meteorological Data</u>		
Pilot Balloons	WBAS, Lambert Field	
CBI and PIA Rawinsondes	Outlying Station Winds	
Dissemination Site Winds	KMOX Tower Winds (except middle level)	
<u>Commentary</u>		
None		
<u>Synoptic Situation</u>		
A cold front passed through the St. Louis area several hours prior to the beginning of the experiment, causing gradually clearing skies and westerly to northwesterly winds.		

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

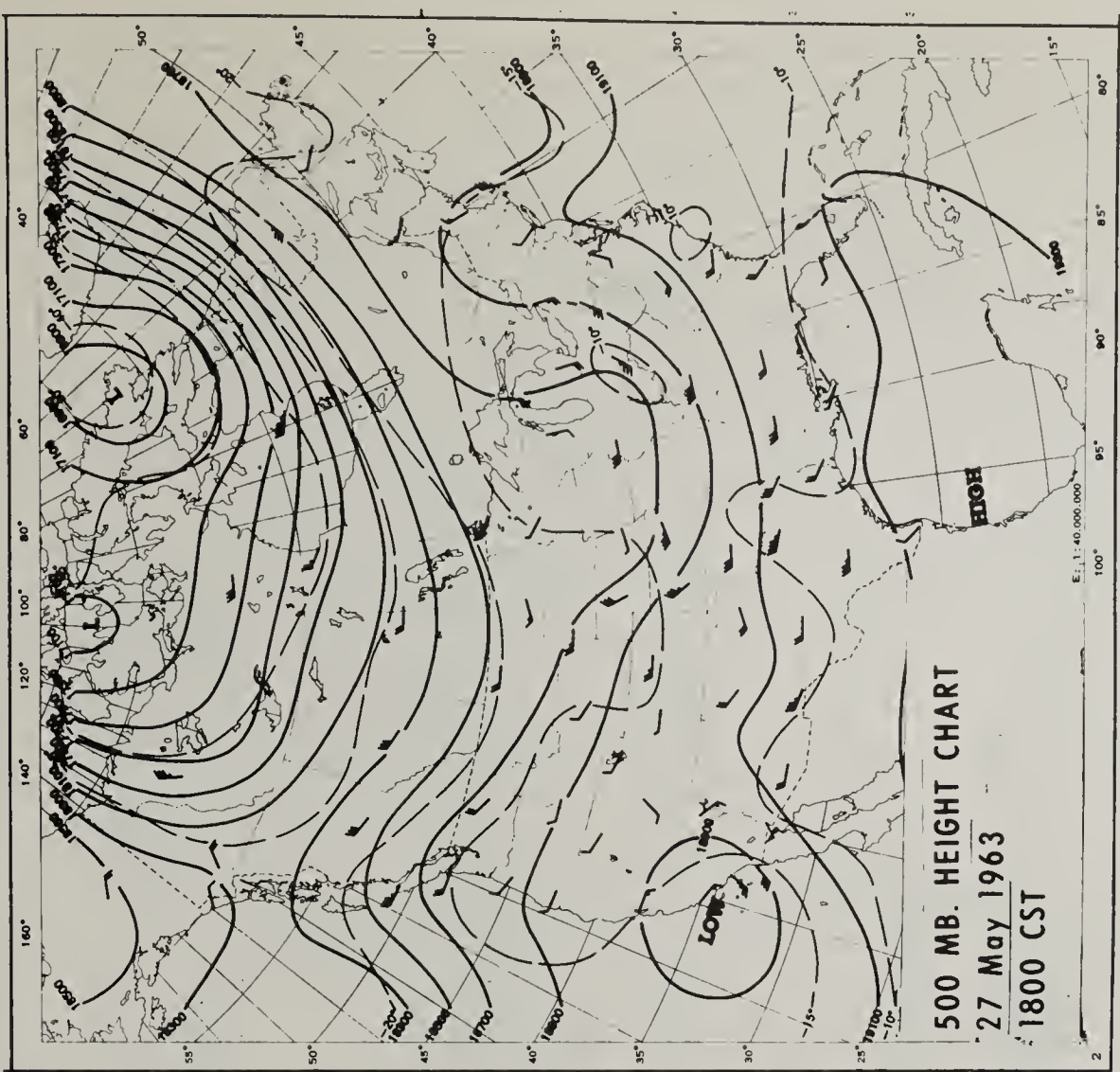
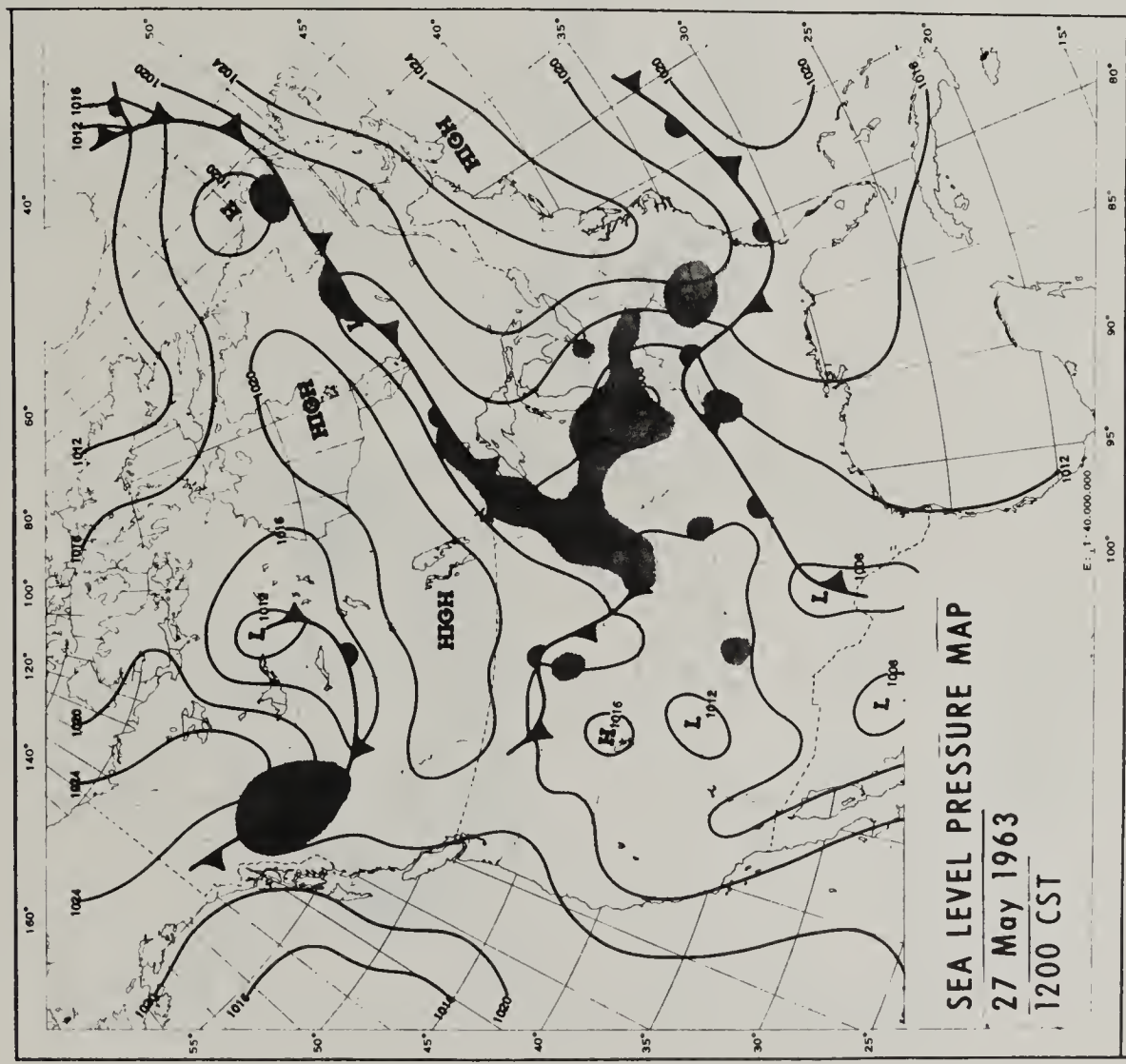


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Three	
28 May 1963	Dissemination Site: Forest Park
Sampling Arcs: 1, 2, 3	Dissemination from 1000 to 1100 CST
	Dissemination: 3786.9 gm
	Lot Size No. 1320
<u>Disseminator Feed Voltage Readings</u>	
7 v (entire dissemination)	
<u>Sampling Data</u>	
Total Surface Dosage	Sequential Surface Dosages
<u>Meteorological Data</u>	
Pilot Balloons	Outlying Station Winds
PIA and CBI Rawinsondes	KMOX Tower Winds (except lower, middle level)
Dissemination Site Winds	Vertical Temperature Gradients on KMOX Tower
WBAS, Lambert Field	
<u>Commentary</u>	
None	
<u>Synoptic Situation</u>	
Weak cold air advection and brisk, steady northwesterly winds persisted over the St. Louis area. A cold front moved past the area earlier and was located on the Illinois-Kentucky border at 1200 CST.	

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

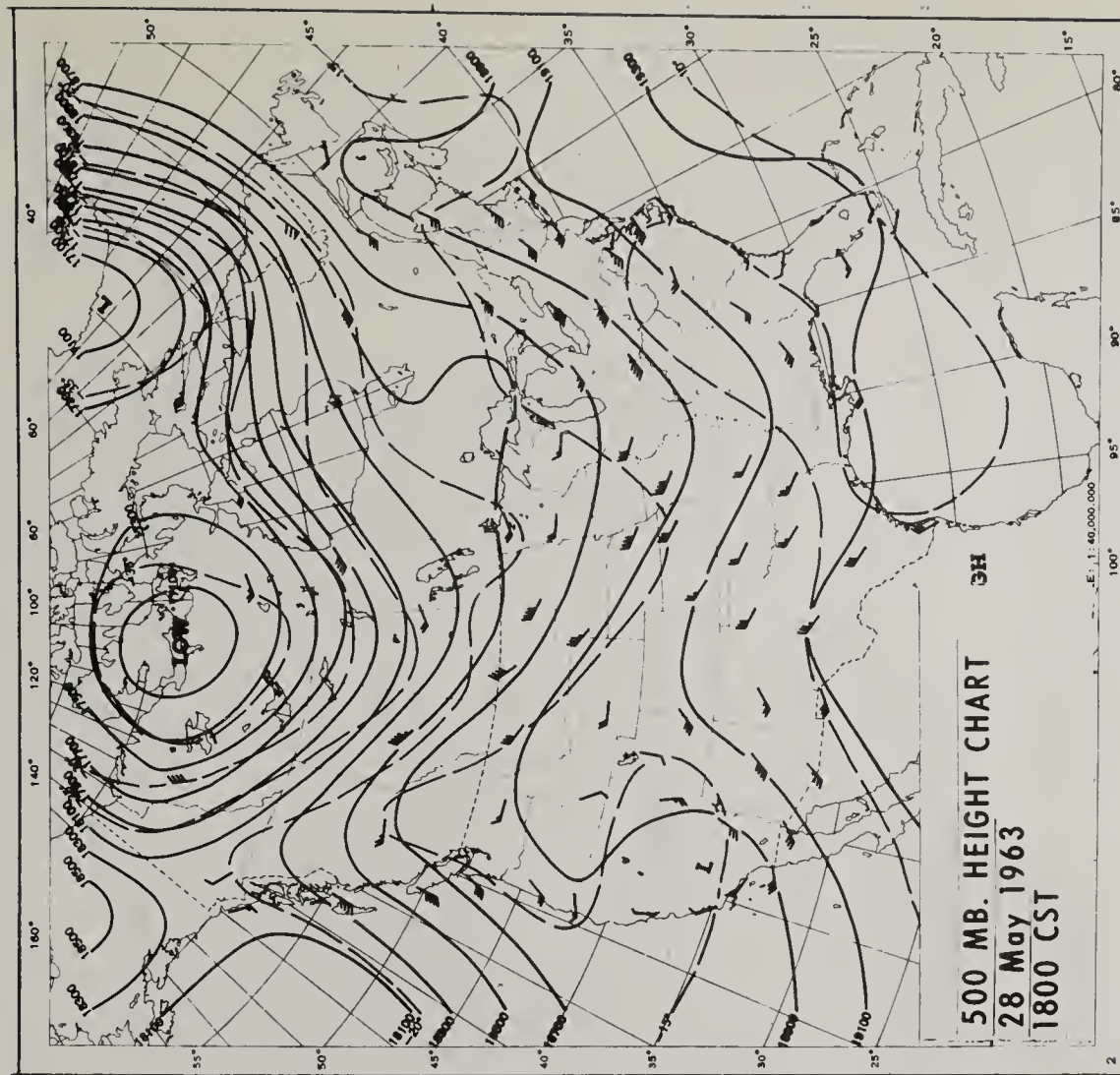


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Four			
19 July 1963	Dissemination Site: Forest Park	Dissemination: 5785.4 gm	
Sampling Arcs: 1, 2, 3	Dissemination from 1130 to 1230 CST	Lot Size No. 1339-4	
<u>Disseminator Feed Voltage Readings</u>			
13.0 v (1130, 1140 CST);	11.0 v (1200 CST);	9.5 v (1210 CST);	12.0 v (1220 CST);
15.0 v (1230 CST)			
Total Surface Dosages		Sequential Surface Dosages	
<u>Sampling Data</u>			
<u>Meteorological Data</u>			
Tetroon	Dissemination Site Winds (speed missing)		
Pilot Balloons	WBAS, Lambert Field		
CBI and PIA Rawinsondes	Outlying Station Winds		
Free Radiosonde	KMOX Tower Winds (except middle level)		

Commentary

Several samplers on the middle sampling arc apparently were not turned on until after the initial elements of the tracer cloud had reached them; however, significant loss of dosage was not considered to have occurred.

Synoptic Situation

Strong, gusty southwesterly winds and clearing skies occurred as St. Louis was in the sector between an advancing cold front and a receding warm front.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

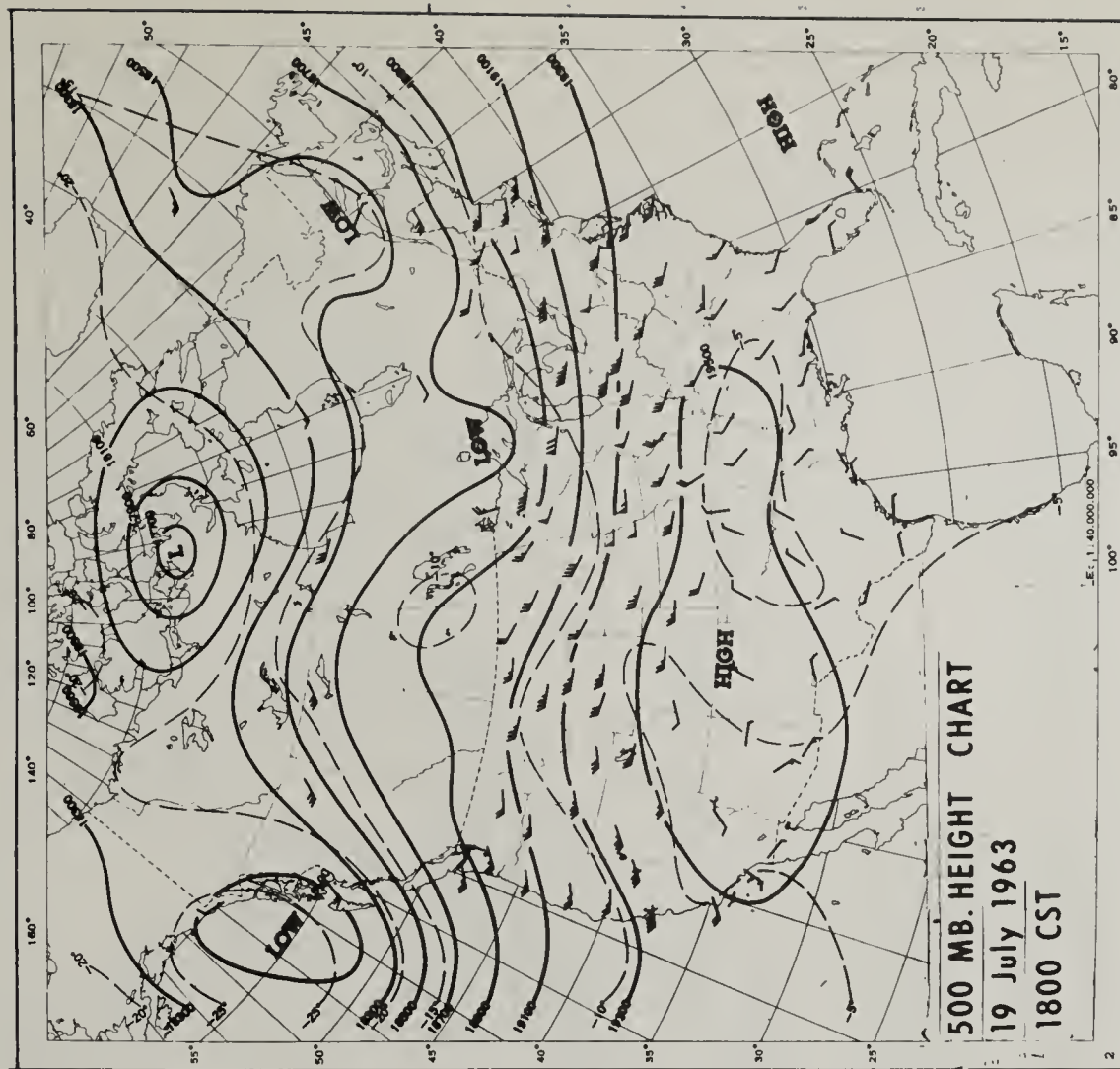
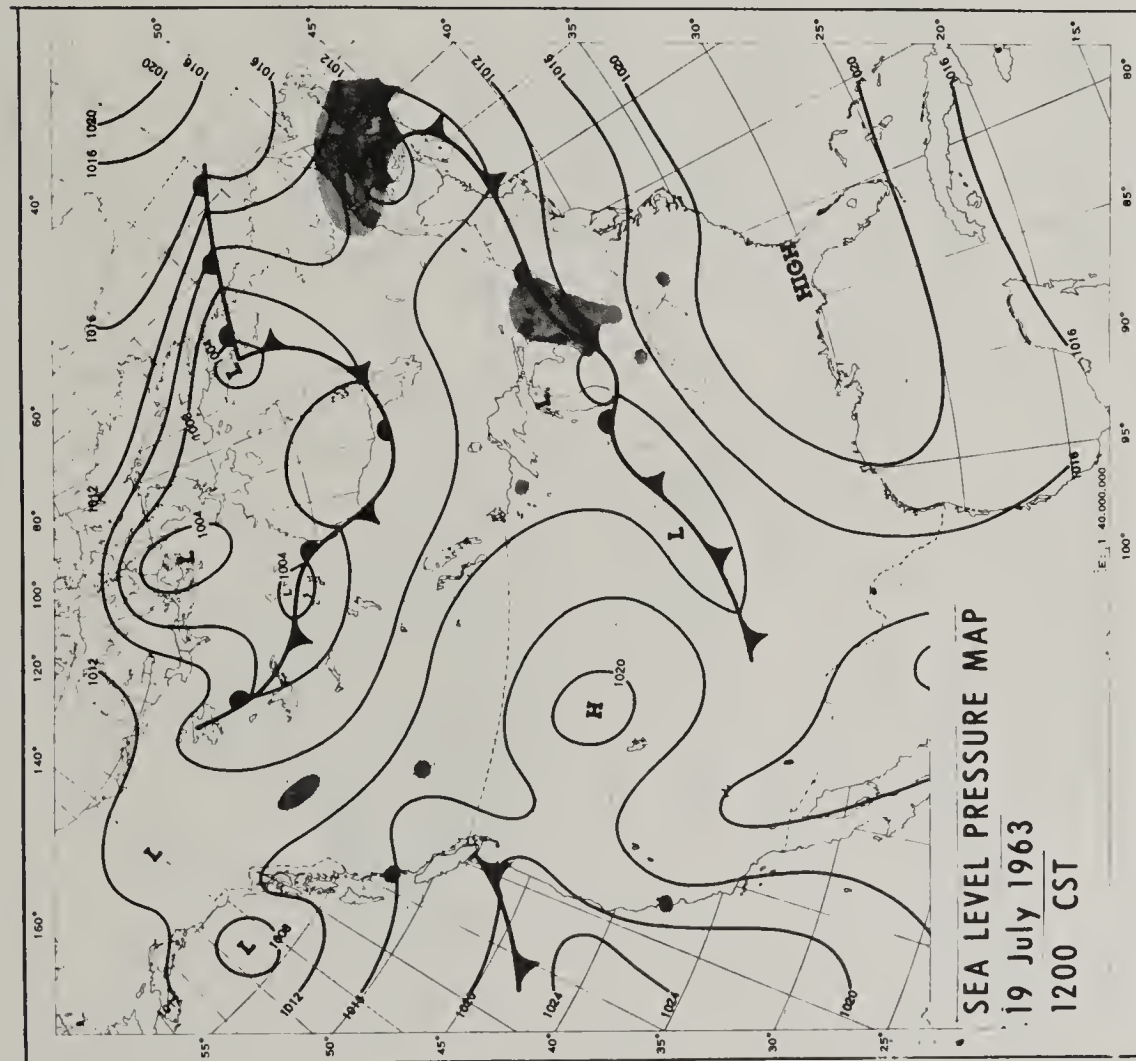


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Five		
22 July 1963	Dissemination Site: K. of C. Building	Dissemination: 5143.5 gm
Sampling Arcs: 4, 5, 6	Dissemination from 1104 to 1204 CST	Lot Size No. 1339-4
<u>Disseminator Feed Voltage Readings</u>		
9.5 v (1104 CST); 9.0 v (1133 CST); 11.0 v (1144 CST); 10.5 v (1150 CST)		
<u>Sampling Data</u>		
Total Surface Dosages	Sequential Surface Dosages	
<u>Meteorological Data</u>		
Tetroon	WBAS, Lambert Field	
Pilot Balloons	Outlying Station Winds	
CBI and PIA Rawinsondes	KMOX Tower Winds (except middle level)	
Free Radiosonde		
NONE	<u>Commentary</u>	
<u>Synoptic Situation</u>		
Partly cloudy skies and moderate southeasterly winds persisted from a high pressure area centered over Tennessee. A weak stationary front lay to the west over the Plains states.		

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

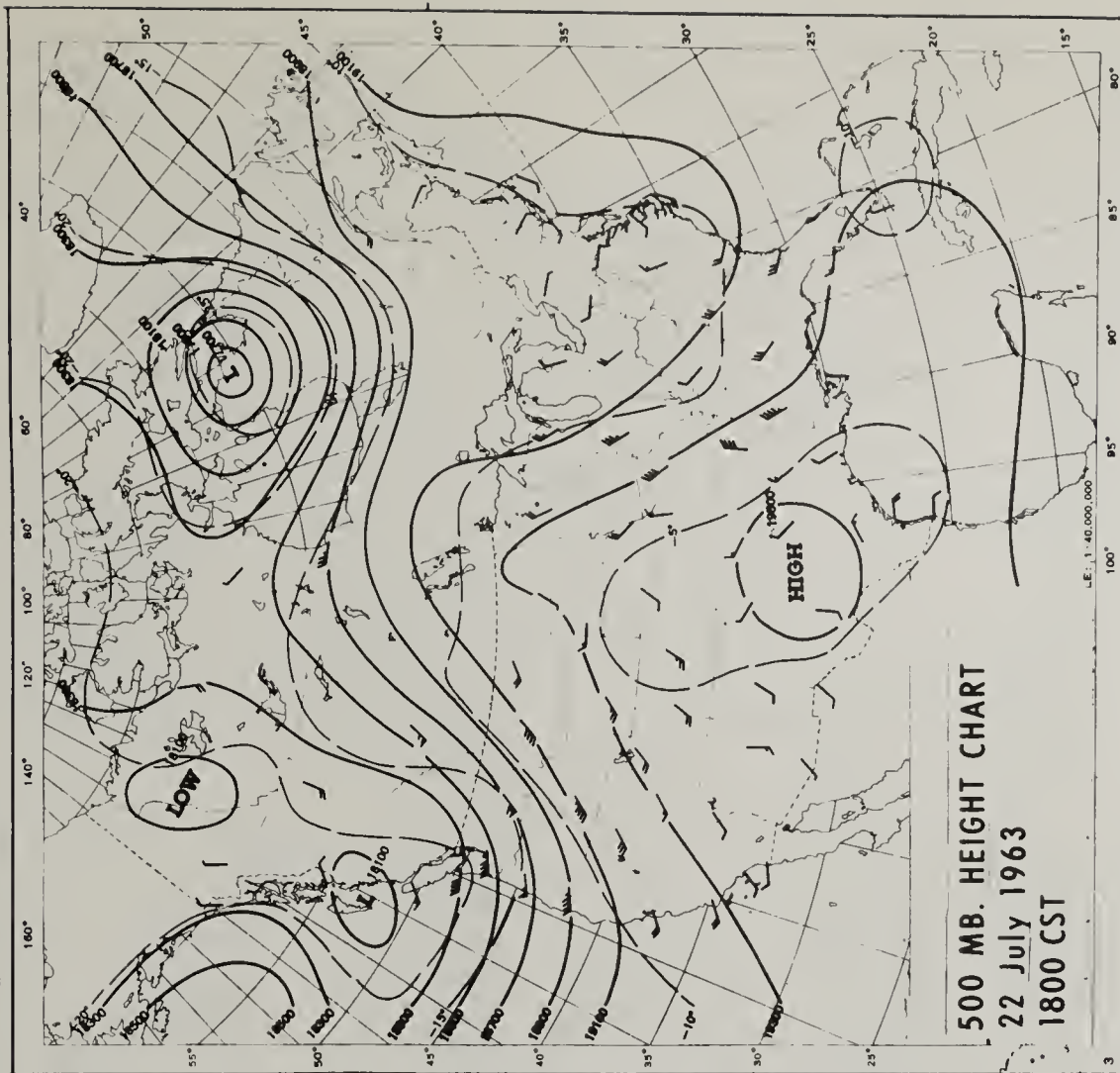
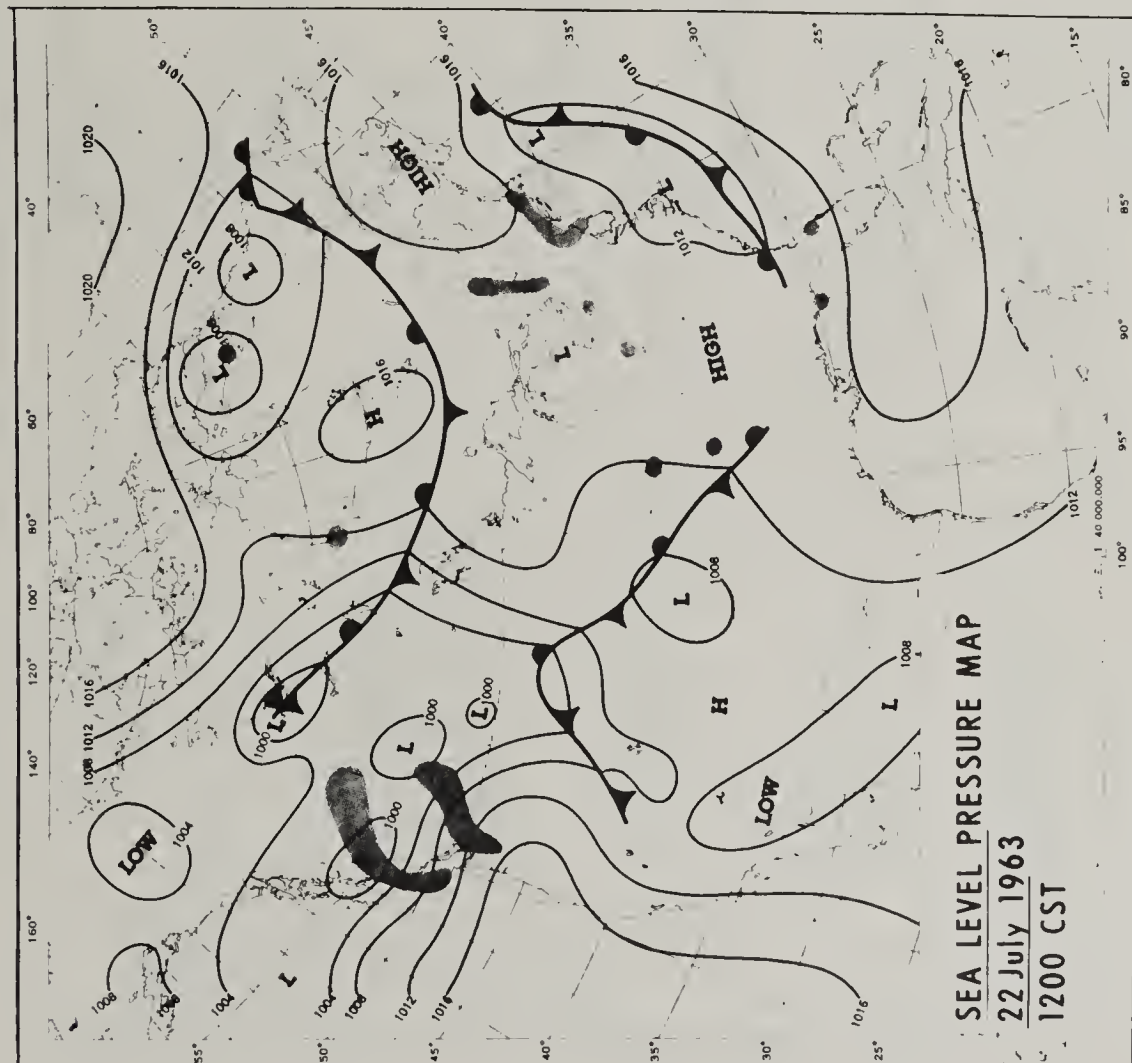


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Six			
23 July 1963	Dissemination Site: K. of C. Building	Dissemination: 7308.3 gm	
Sampling Arcs: 4, 5, 6	Dissemination from 1130 to 1230 CST	Lot Size No. 1339-4	
<u>Disseminator Feed Voltage Readings</u>			
13.5 v (1130 CST); 13.7 v (1140 CST); 8.5 v (1310 CST); 12.0 v (1220 CST)			
<u>Sampling Data</u>			
Total Surface Dosages			
<u>Meteorological Data</u>			
Tetroon	WBAS, Lambert Field		
Pilot Balloons	Outlying Station Winds		
CBI and PIA Rawinsondes	KMOX Tower Winds (except middle level)		
Free Radiosonde			
<u>Commentary</u>			
Coverage of the tracer cloud by the sampling arcs is skimpy.			
<u>Synoptic Situation</u>			
The St. Louis area weather was under the influence of a high pressure cell centered over Pennsylvania. Clear skies and moderate southerly winds prevailed.			

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

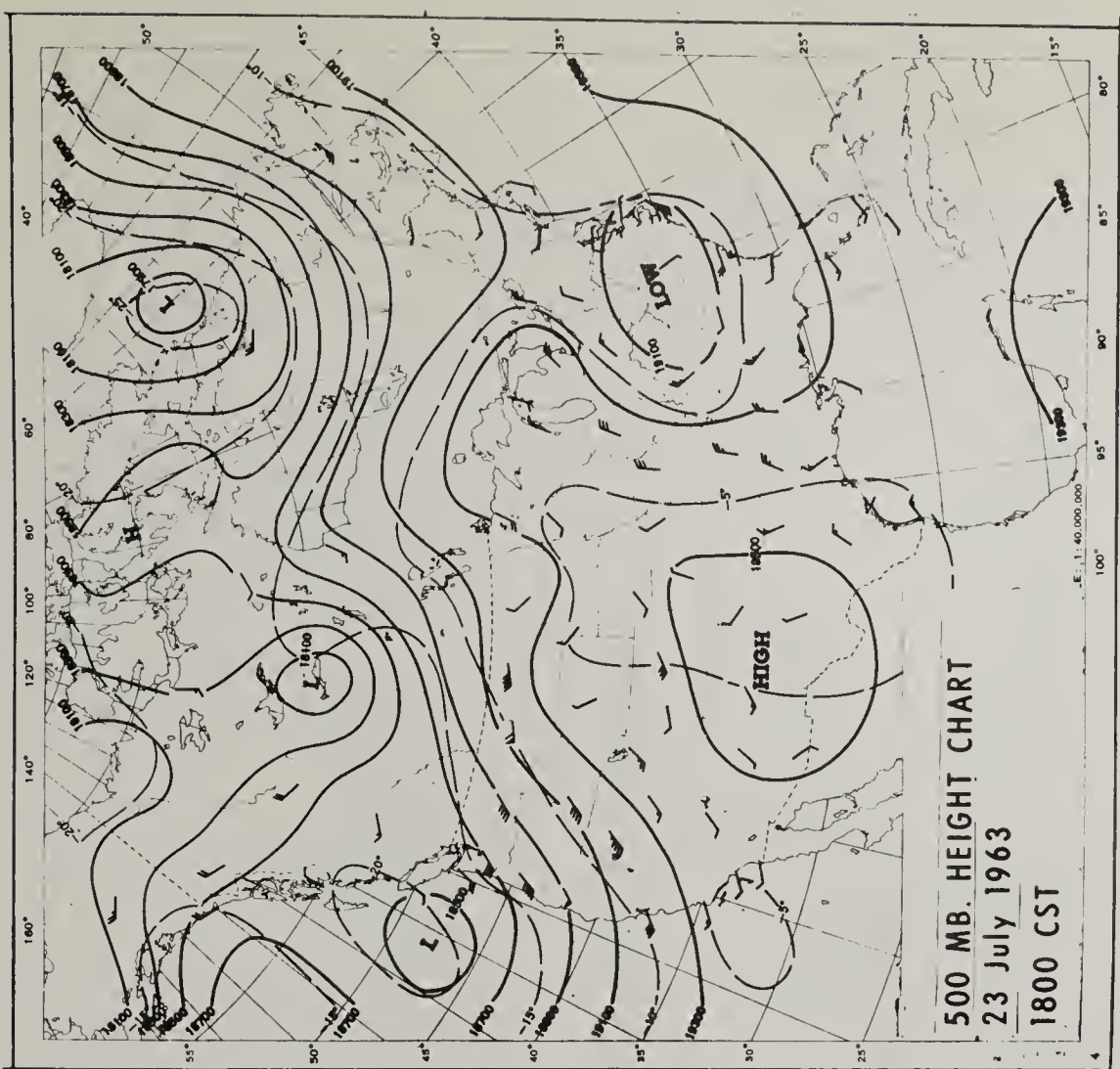
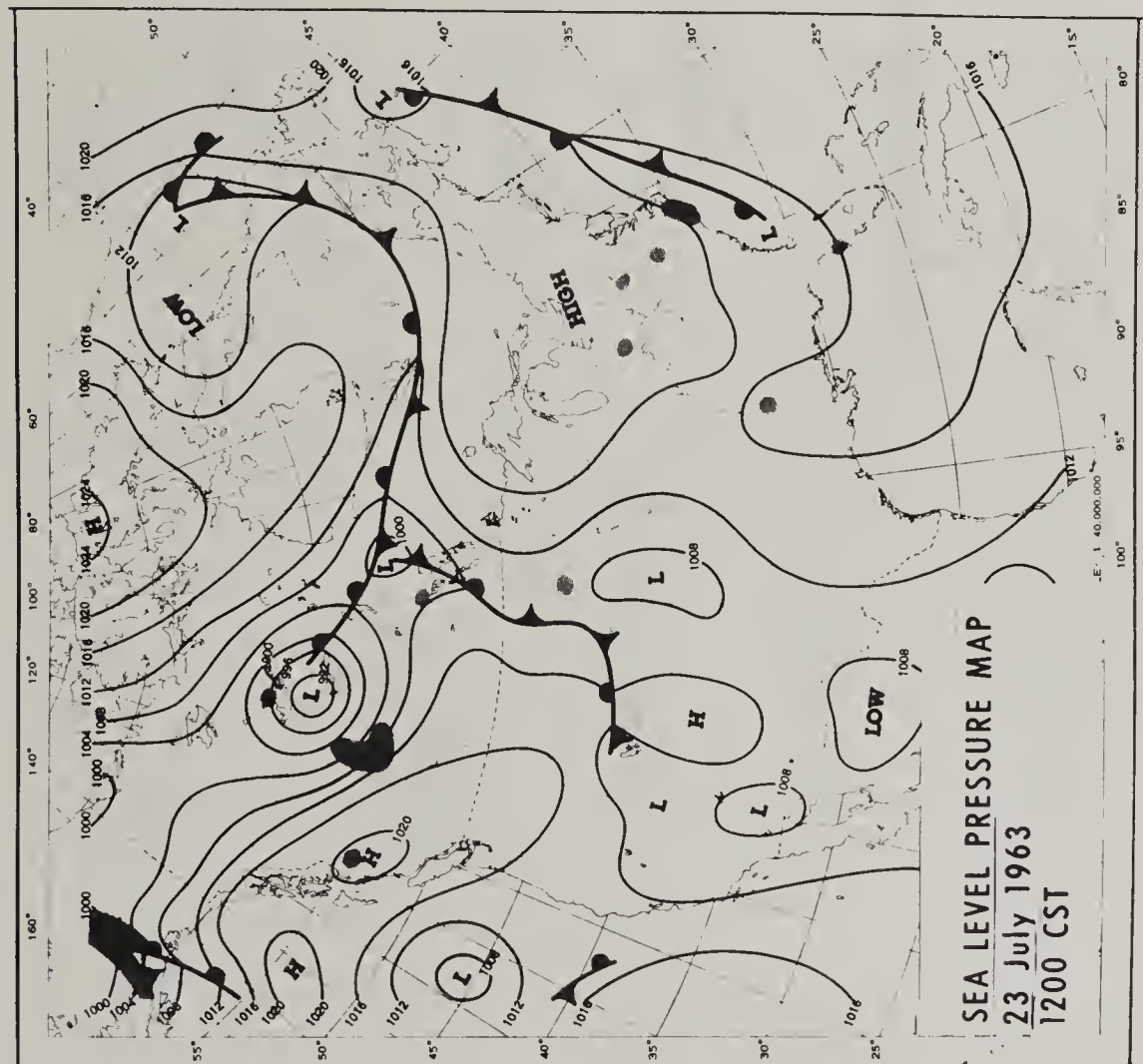


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Seven		
25 July 1963	Dissemination Site: K. of C. Building	Dissemination: 6681.9 gm
Sampling Arcs: 4, 5, 6	Dissemination from 1040 to 1140 CST	Lot Size No. 1339-4
<u>Disseminator Feed Voltage Readings</u>		
14.0 v (1040, 1050 CST); 13.5 v (1100 CST); 11.5 v (1110 CST); 9.5 v (1115 CST); 9.0 v (1130 CST)		
<u>Sampling Data</u>		
Total Surface Dosages	Sequential Surface Dosages	
<u>Meteorological Data</u>		
Tetroon	WBAS, Lambert Field	
Pilot Balloons	Outlying Station Winds	
CBI and PIA Rawinsondes	KMOX Tower Winds (except middle level)	
Free Radiosonde		
<u>Commentary</u>		
None		
<u>Synoptic Situation</u>		
Moderate southeasterly winds and clear skies existed in advance of a cold front centered over the upper Plains.		

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

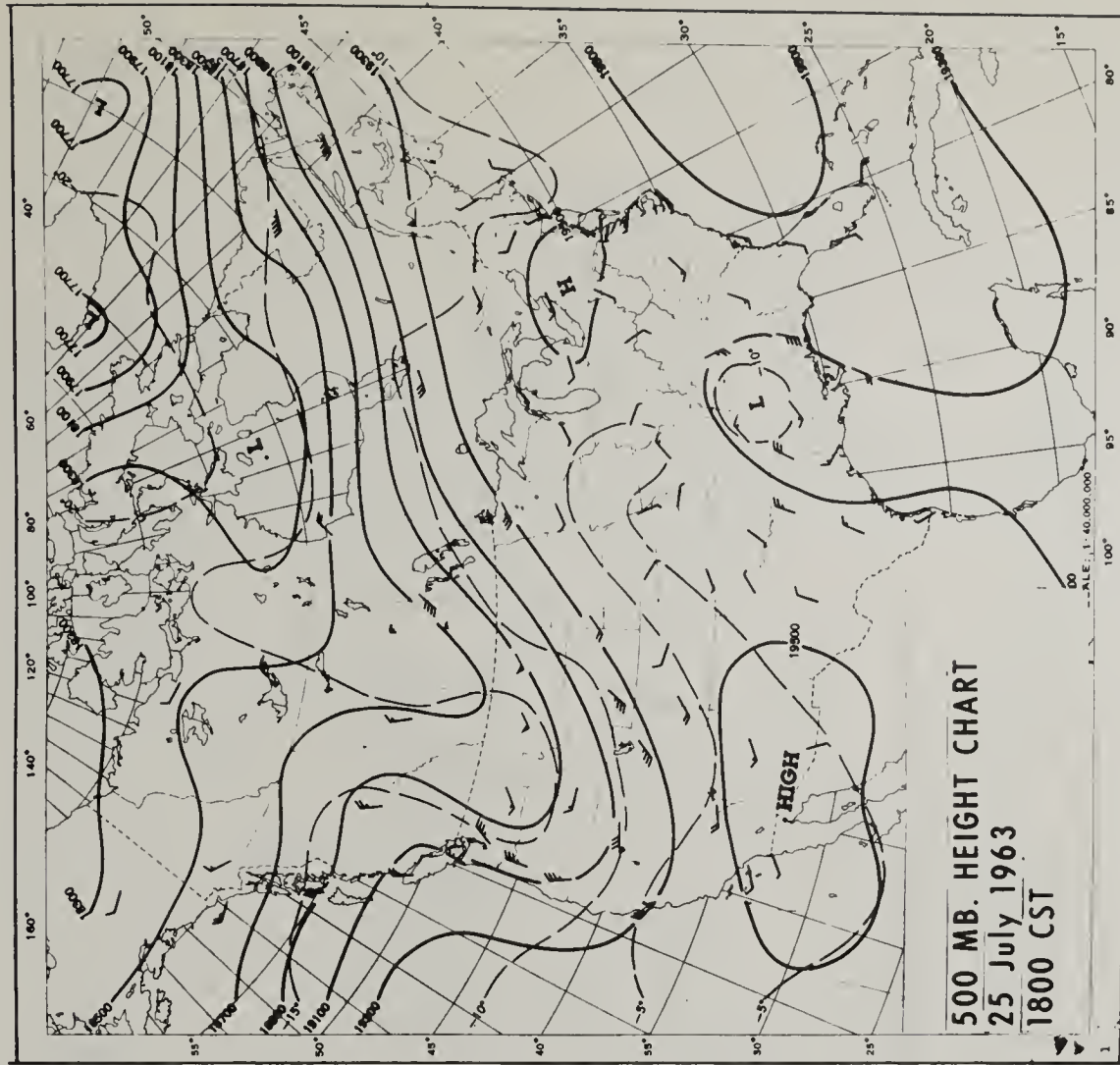
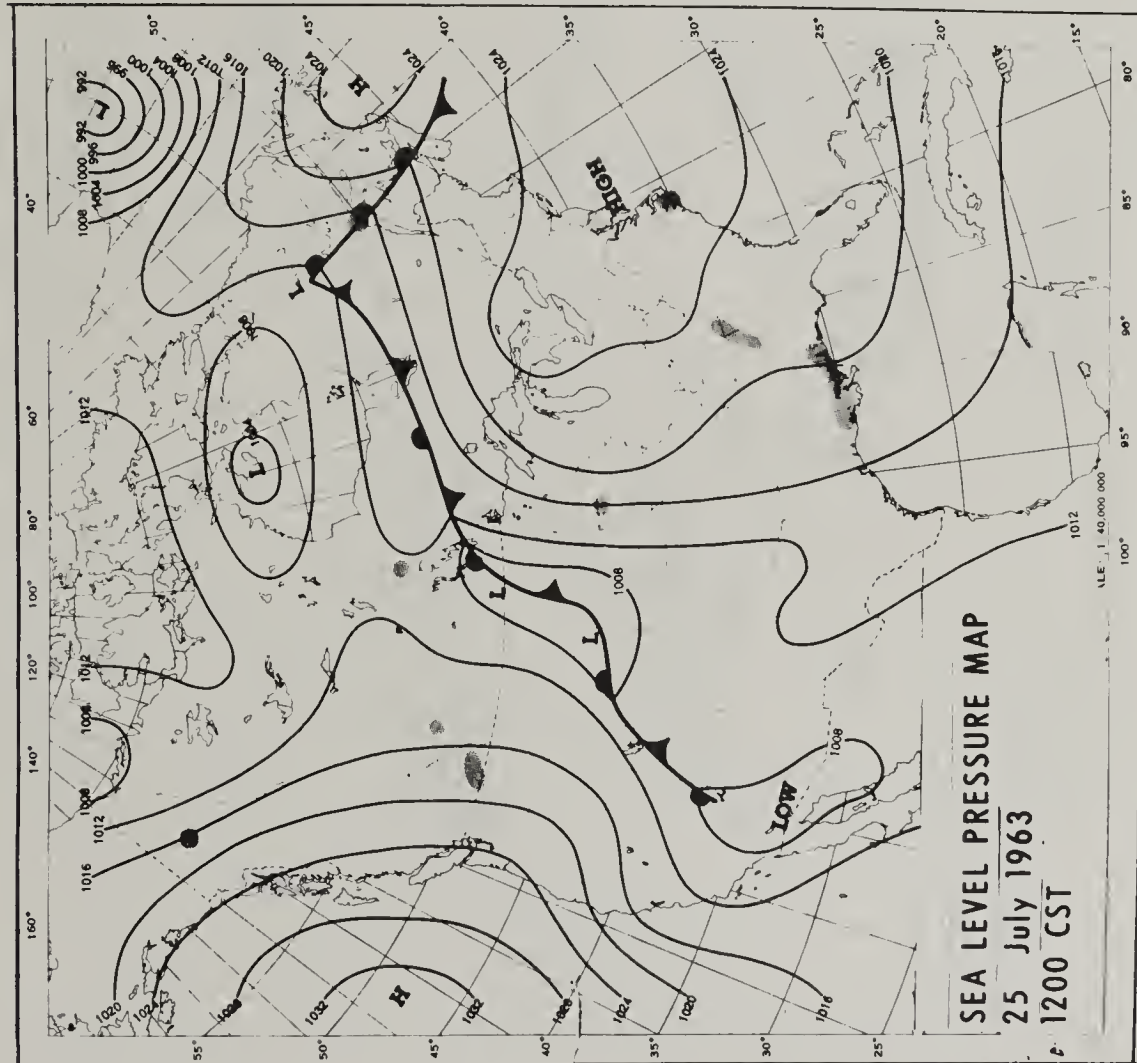


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Eight			
26 July 1963	Dissemination Site: K. of C. Building	Dissemination: 8871.9 gm	
Sampling Arcs: 4, 5, 6	Dissemination from 1045 to 1145 CST	Lot Size No. 1339-4	
<u>Disseminator Feed Voltage Readings</u>			
18.0 v (1045 CST); 15.0 v (1105 CST); 12.0 v (1110, 1125, 1140 CST)			
<u>Sampling Data</u>		Sequential Surface Dosages	
Total Surface Dosages			
<u>Meteorological Data</u>			
Tetroon	Dissemination Site Winds (Direction missing)		
Pilot Balloons	WBAS, Lambert Field		
CBI and PIA Rawinsondes	Outlying Station Winds		
Free Radiosonde	KMOX Tower Winds (except middle level)		
<u>Commentary</u>			
None.			
<u>Synoptic Situation</u>			
Moderate to strong south southeasterly winds and partly cloudy skies persisted in advance of a cold front centered over Kansas and Nebraska.			

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

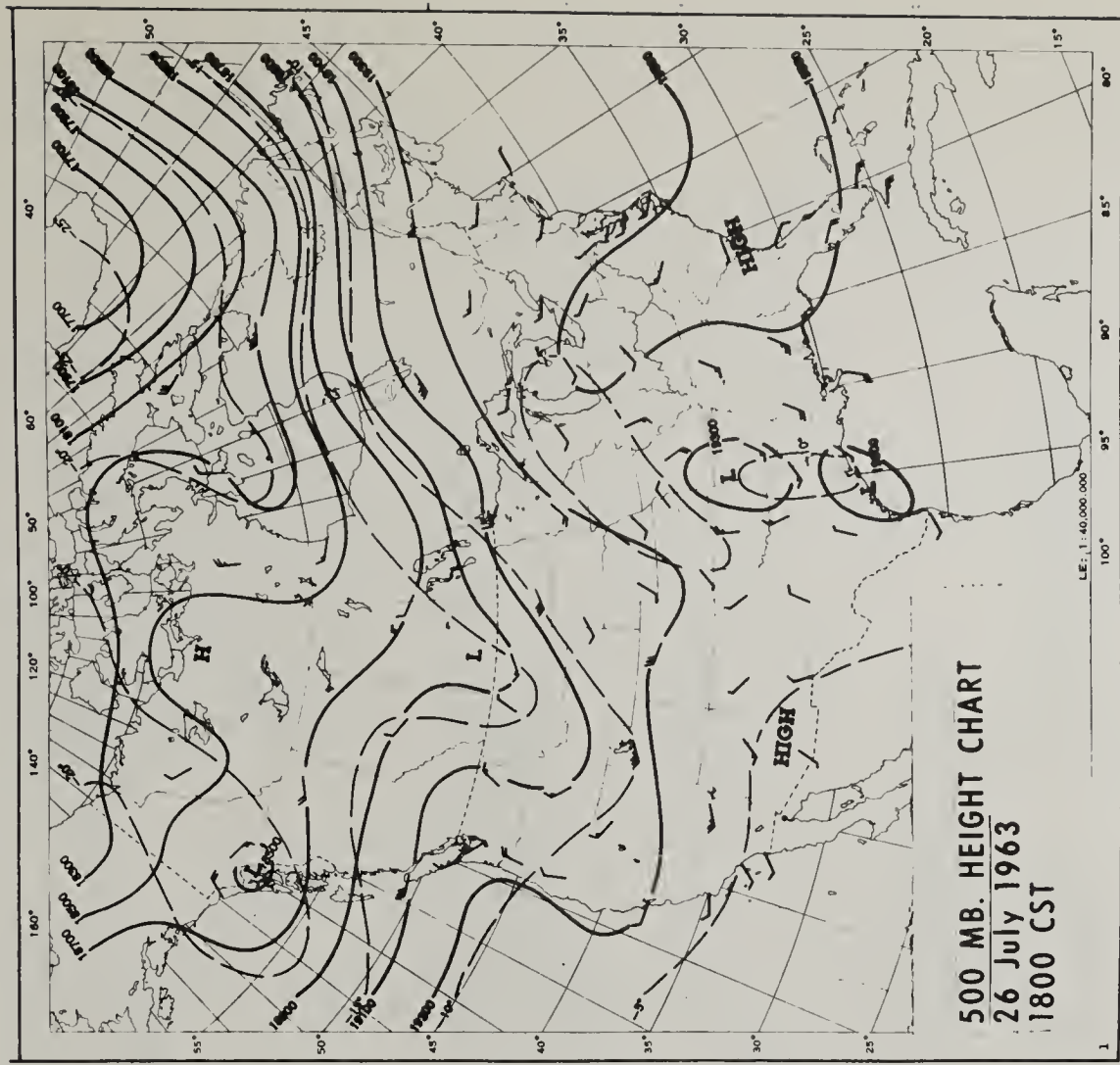
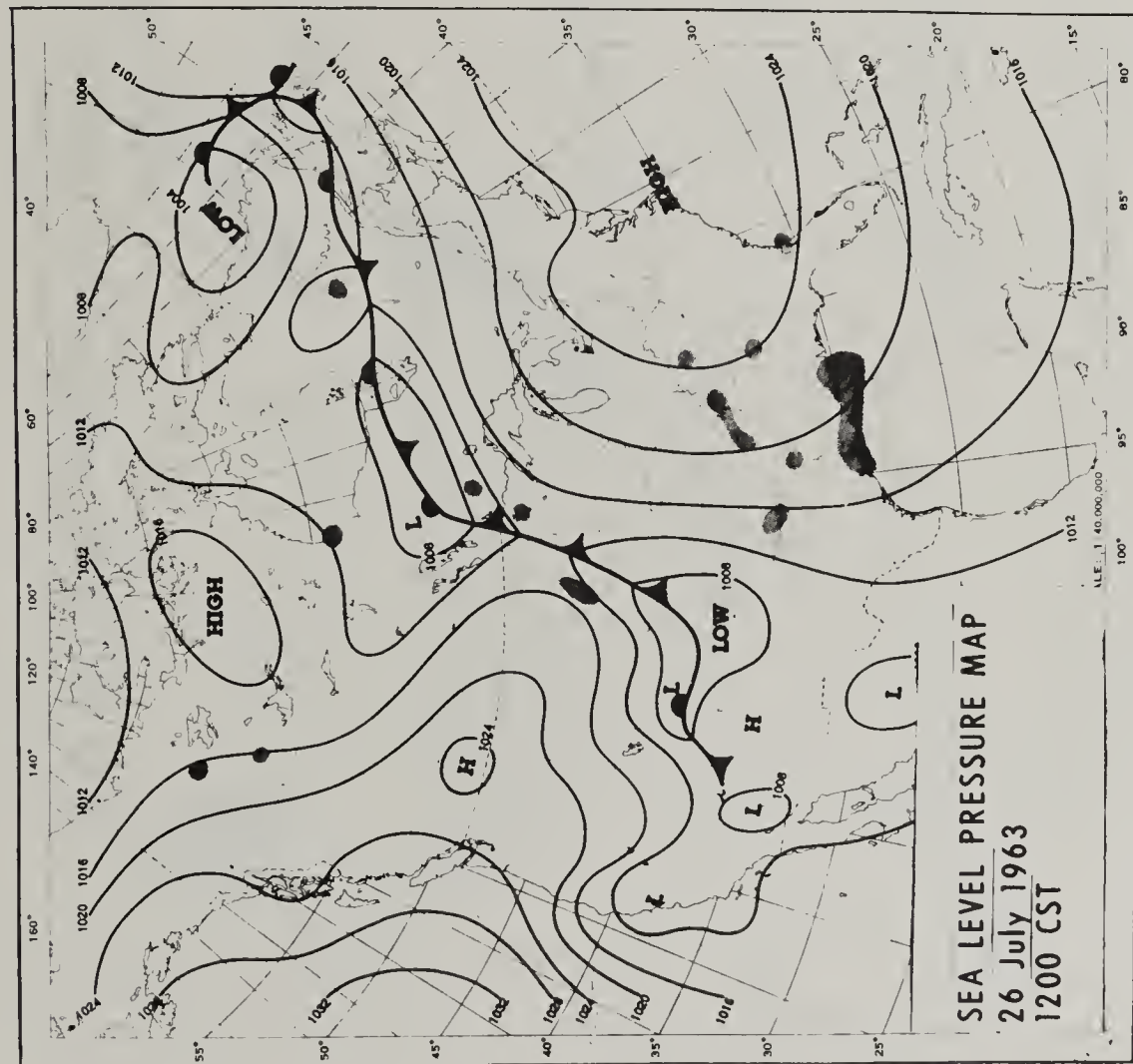


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Nine			
12 September 1963	Dissemination Site: Forest Park	Dissemination: 9082.2 gm	
Sampling Arcs: 1, 2, 3	Dissemination from 1115 to 1215 CST	Lot Size No. 1339-1	
<u>Disseminator Feed Voltage Readings</u>			
19.0 v (1118, 1128 CST); 15.0 v (1128, 1154, 1215 CST) *			
<u>Sampling Data</u>		Sequential Surface Dosages	
Total Surface Dosages			
<u>Meteorological Data</u>			
Tetroon			
Pilot Balloons		WBAS, Lambert Field	
CBI and PIA Rawinsondes		Outlying Station Winds	
Free Radiosonde		KMOX Tower Winds (except middle level)	
Dissemination Site Winds (Speed missing)			
<u>Commentary</u>			
None			
<u>Synoptic Situation</u>			
A cold front passed through the St. Louis area at about 0700 CST. Moderate northerly winds and cloudy skies persisted throughout the experiment.			
Feed rate adjusted from 19 to 15 volts at 1128 CST.			

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

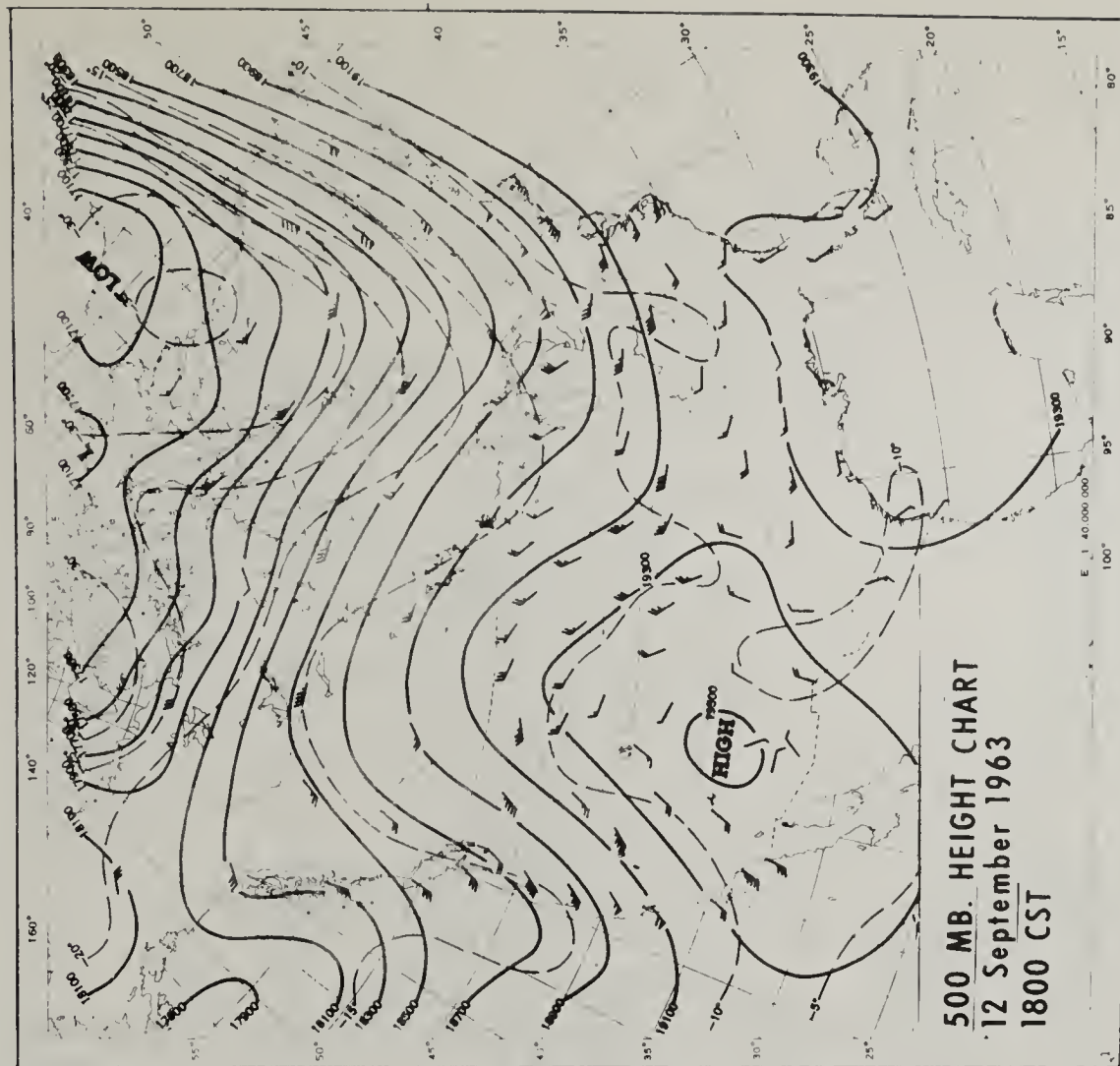
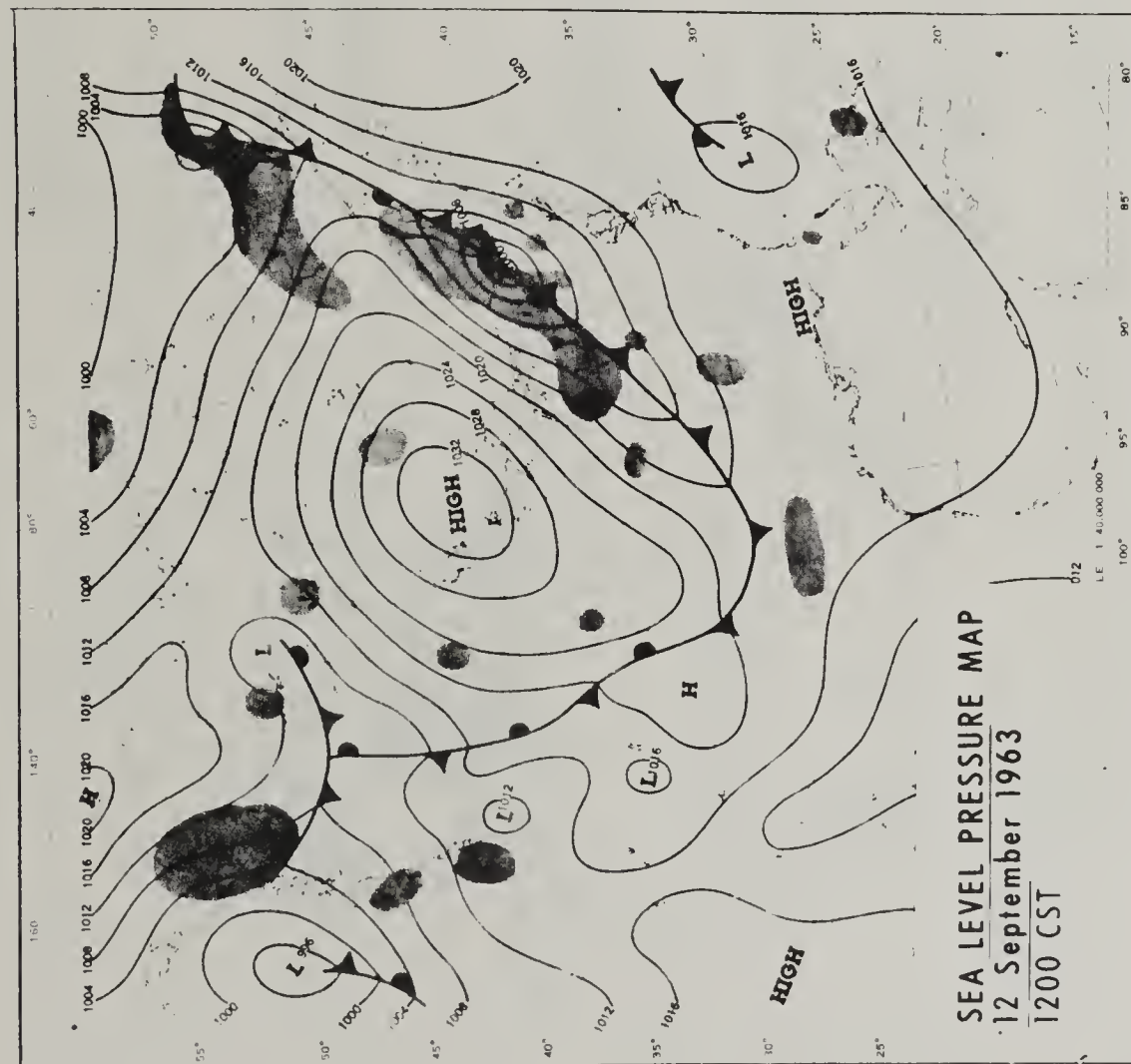


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Ten		
14 September 1963 Sampling Arcs: 4, 5, 6	Dissemination Site: K. of C. Building Dissemination from 1045 to 1145 CST	Dissemination: 5425.1 gm Lot Size No. 1339-1
<u>Disseminator Feed Voltage Readings</u>		
11.0 v (1045, 1100 CST); 9.0 v (1100, 1115, 1130, 1145 CST)		
<u>Sampling Data</u>		
Total Surface Dosages (incomplete)		
<u>Meteorological Data</u>		
Pilot Balloons CBI and PIA Rawinsondes WBAS, Lambert Field	Outlying Station Winds KMOX Tower Winds (except middle level)	
<u>Commentary</u>		
The tracer cloud passed about 30 degrees (in azimuth) off the left end of the sampling arcs; no useful results were obtained.		
<u>Synoptic Situation</u>		
Light easterly winds and clear skies resulted from a ridge extending from the Great Lakes to Arkansas.		

Table 1 (continued)... EXPERIMENT SUMMARY SHEETS

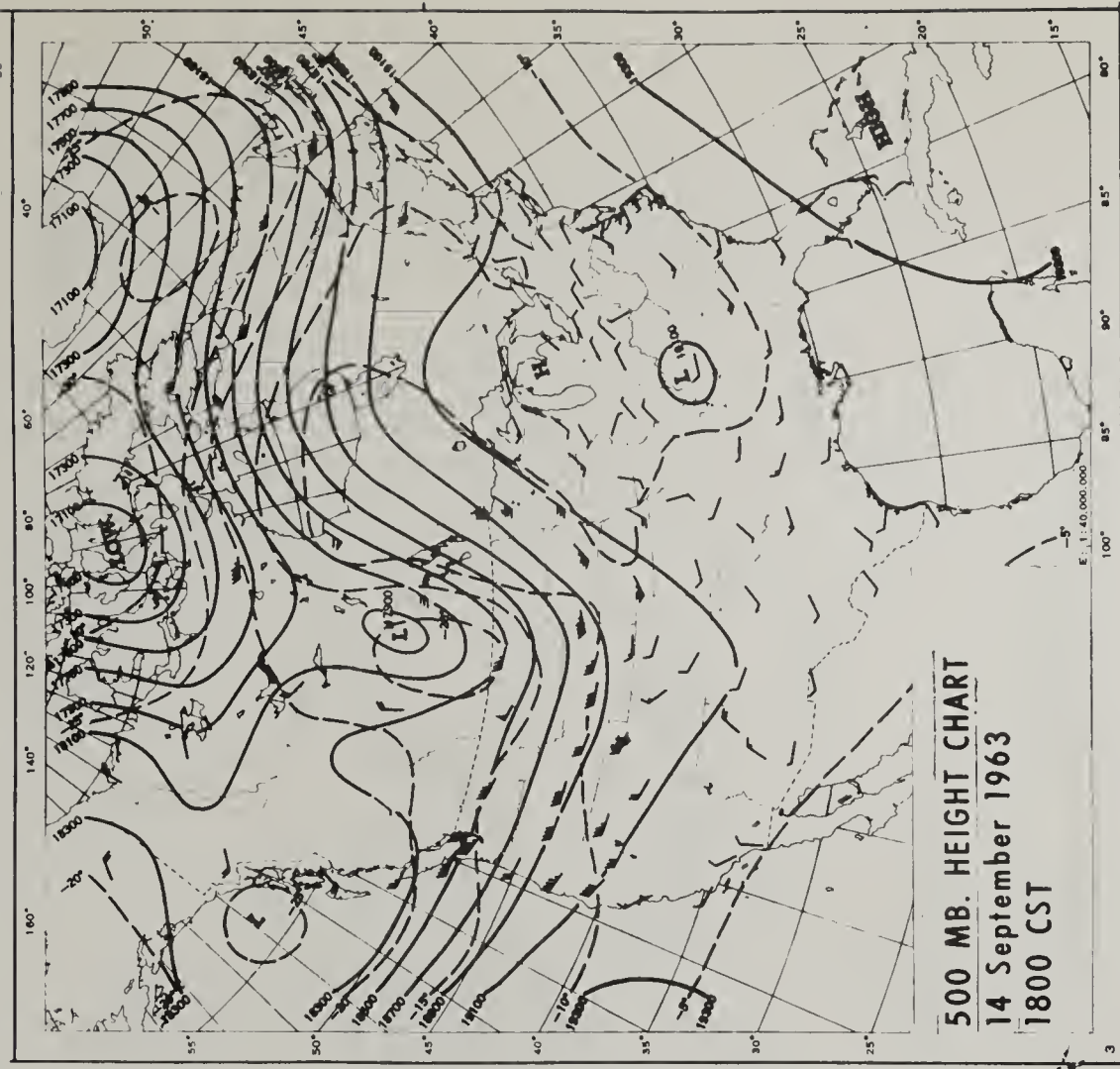
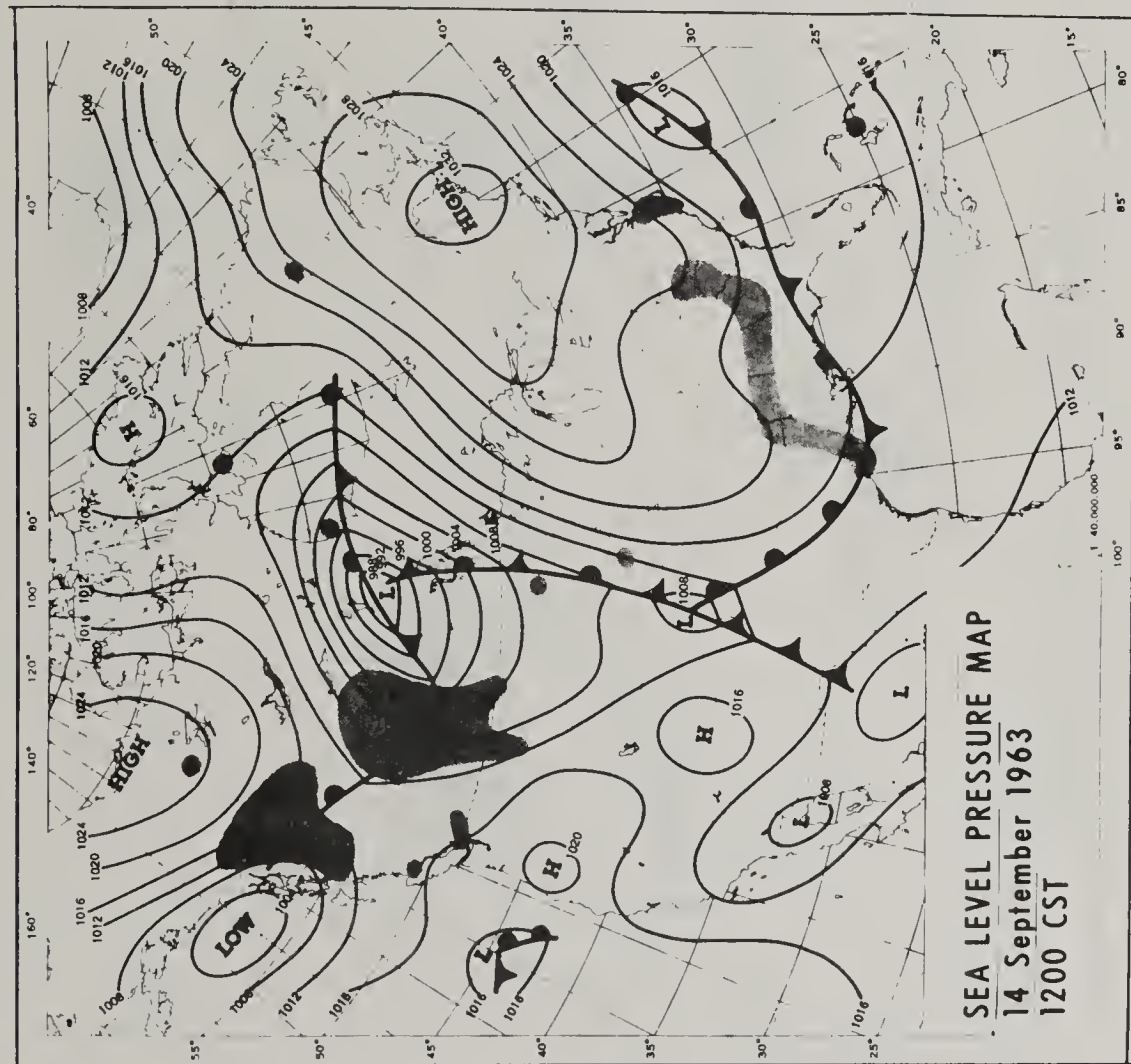


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Eleven		
16 September 1963	Dissemination Site: K. of C. Building	Dissemination: 7220.7 gm
Sampling Arcs: 4, 5, 6	Dissemination from 1100 to 1200 CST	Lot Size No. 1339-1
<u>Disseminator Feed Voltage Readings</u>		
12.5 v (entire dissemination)		
<u>Sampling Data</u>		
Total Surface Dosages	Sequential Surface Dosages	
<u>Meteorological Data</u>		
Tetroon	Dissemination Site Winds (Speed missing)	
Pilot Balloons	WBAS, Lambert Field	
CBI and PIA Rawinsondes	Outlying Station Winds	
Free Radiosonde	KMOX Tower Winds (except middle, upper levels)	
<u>Commentary</u>		
None.		
<u>Synoptic Situation</u>		
Light southeasterly winds and partly cloudy skies existed in response to a high pressure area center over the Eastern states.		

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

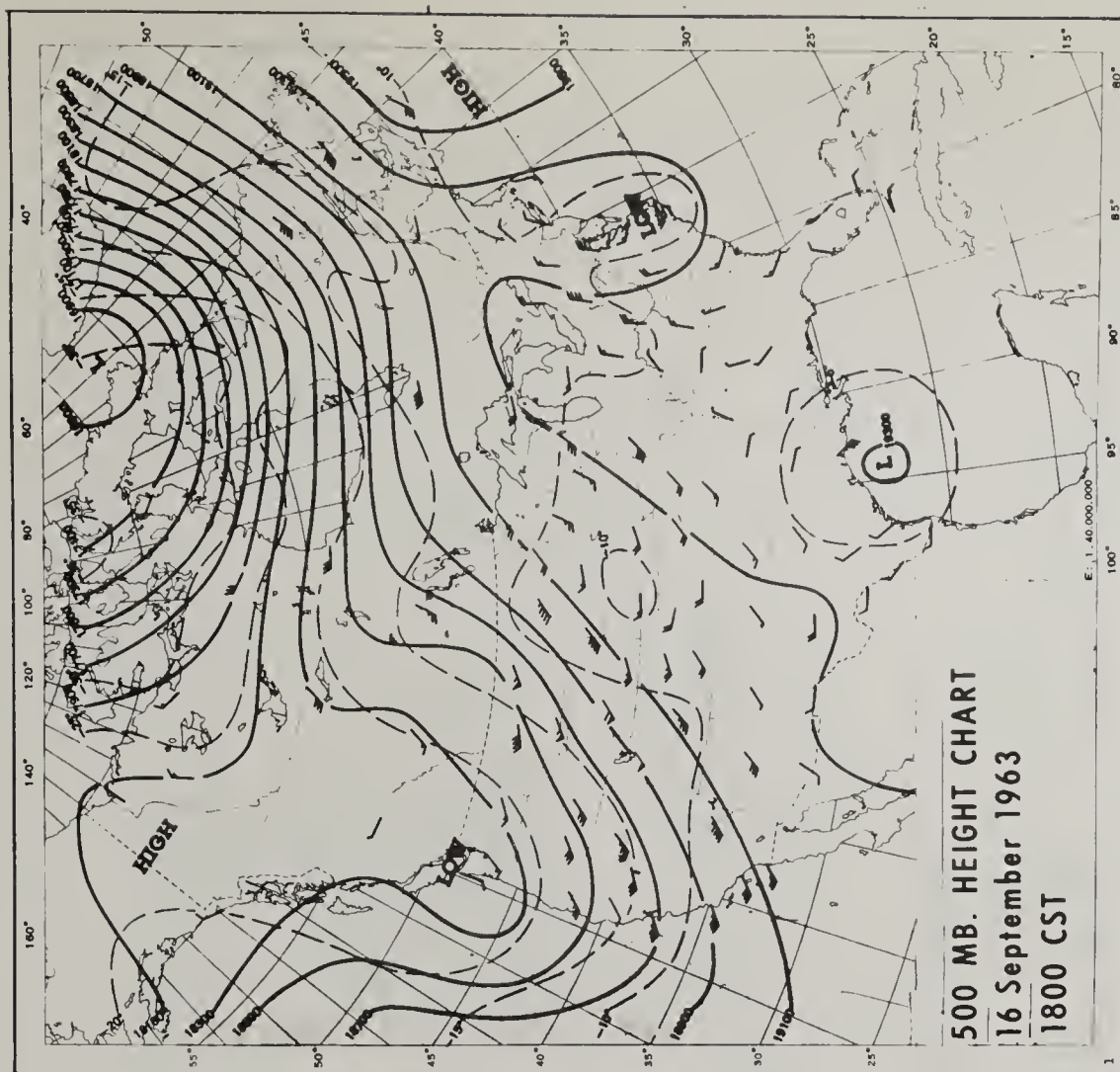
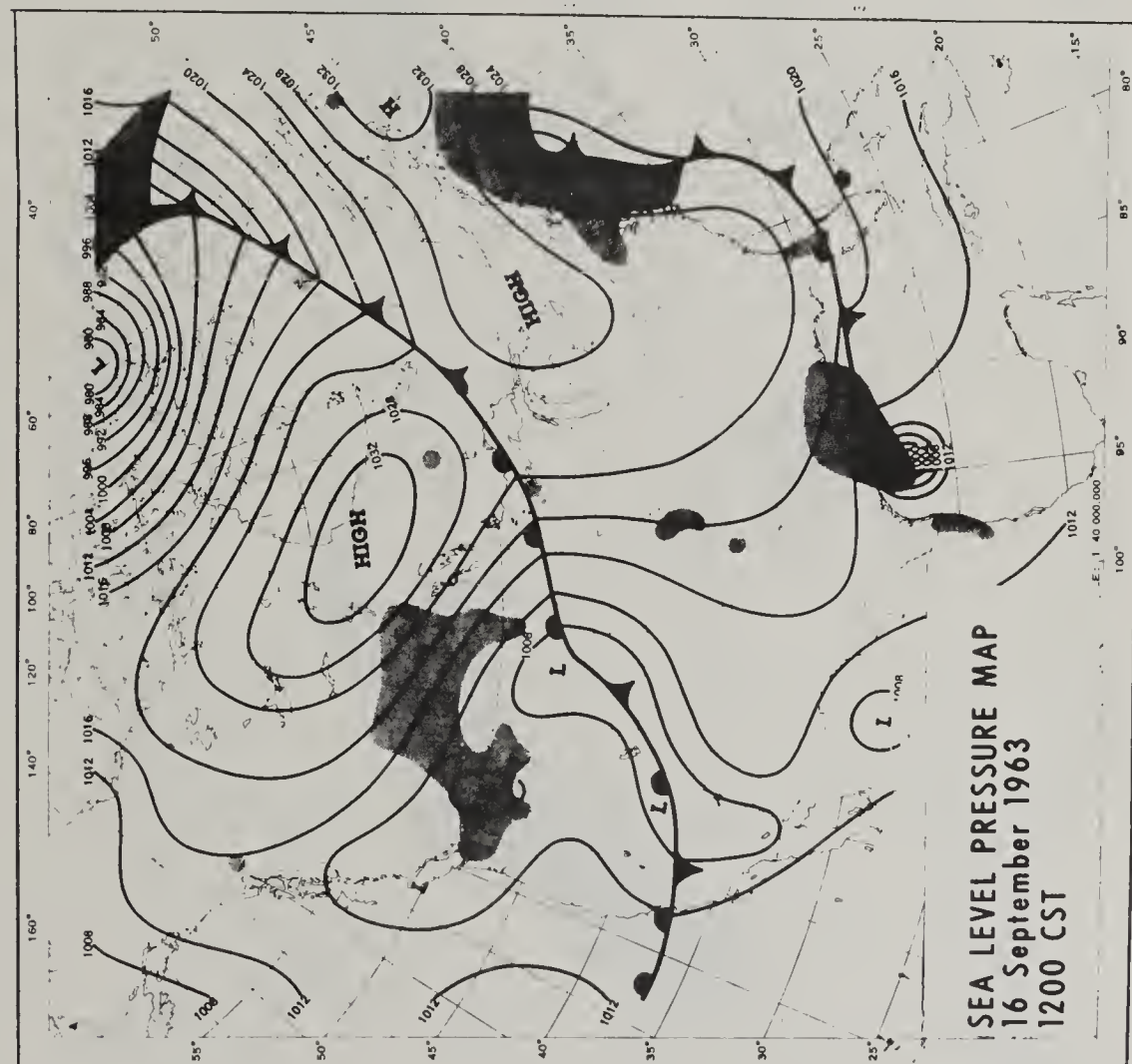


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Twelve			
17 September 1963	Dissemination Site: K. of C. Building	Dissemination: 804.6 gm	
Sampling Arcs: 4, 5, 6	Dissemination from 2000 to 2030 CST	Lot Size No. 1339-1	
<u>Disseminator Feed Voltage Readings</u>			
4.0 v (entire dissemination)			
Total Surface Dosages		<u>Sampling Data</u>	
		Sequential Surface Dosages	
<u>Meteorological Data</u>			
Tetroom	Dissemination Site Winds		
Pilot Balloons	WBAS, Lambert Field		
CBI and PIA Rawinsondes	Outlying Station Winds		
Free Radiosonde	KMOX Tower Winds (except middle, upper levels)		
<u>Commentary</u>			
Several samplers on the outer sampling arc apparently were not turned on until the initial elements of the tracer cloud had reached them; significant loss of dosage was not thought to have occurred.			
<u>Synoptic Situation</u>			
Steady southeasterly winds and clear skies persisted in response to a high pressure area over the Eastern states and a ridge line to the north of St. Louis.			

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

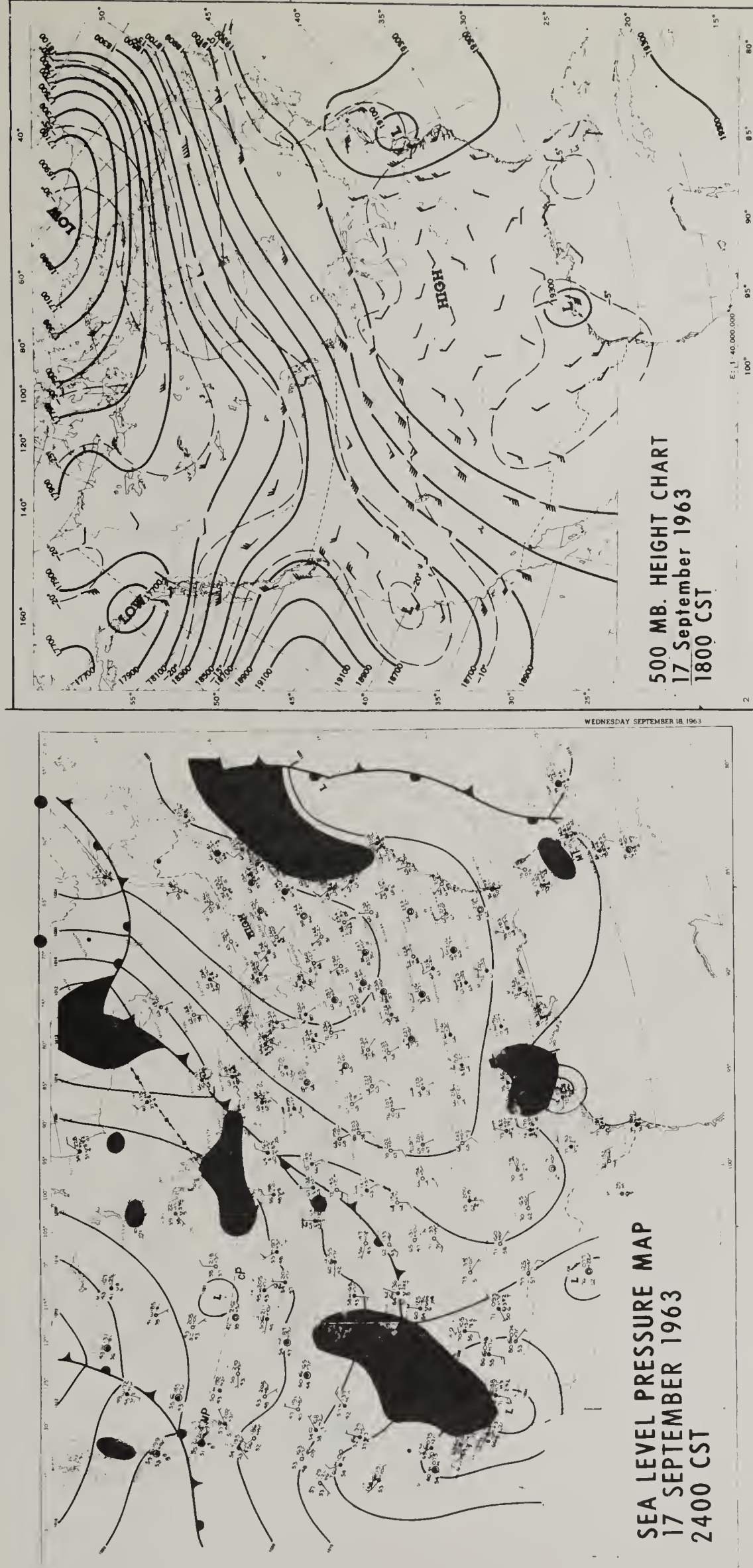


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Thirteen			
18 September 1963	Dissemination Site: K. of C. Building	Dissemination: 2651.9 gm	
Sampling Arcs: 4, 5, 6	Dissemination from 2000 to 2100 CST	Lot Size No. 1339-1	
<u>Disseminator Feed Voltage Readings</u>			
5.5 v (entire dissemination)			
<u>Sampling Data</u>		Sequential Surface Dosages	
Total Surface Dosages			
<u>Meteorological Data</u>		Dissemination Site Winds WBAS, Lambert Field Outlying Station Winds KMOX Tower Winds (except lower, middle levels)	
Tetroon			
Pilot Balloons			
CBI and PIA Rawinsondes			
Free Radiosonde			
<u>Commentary</u>			

The samplers on the inner sampling arc and several samplers on the outer sampling arc were apparently turned off before the entire tracer cloud reached them; because of the uncertainty of the results obtained, no adequate method was devised for adjusting the dosages.

Synoptic Situation

A diffuse high pressure system existed over the area. During the course of the experiment, light easterly winds were gradually replaced by moderate southeasterly winds.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Fourteen				
1 April 1964	Dissemination Site: K. of C. Building	Dissemination: 3055.0 gm		
Sampling Arcs: 4, 5, 6	Dissemination from 1200 to 1300 CST	Lot Size No. 1339-2		
<u>Disseminator Feed Voltage Readings</u>				
6.0 v (entire dissemination)				
<u>Sampling Data</u>		Sequential Surface Dosages		
Total Surface Dosages				
<u>Meteorological Data</u>				
Tetroon	WBAS, Lambert Field			
Pilot Balloons	Outlying Station Winds			
CBI and PIA Rawinsondes	KMOX Tower Winds (except middle level)			
Free Radiosonde				
<u>Commentary</u>				
One sampler contained contamination dosage.				
<u>Synoptic Situation</u>				
Strong southeasterly winds and cloudy skies existed in advance of an advancing warm front.				

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

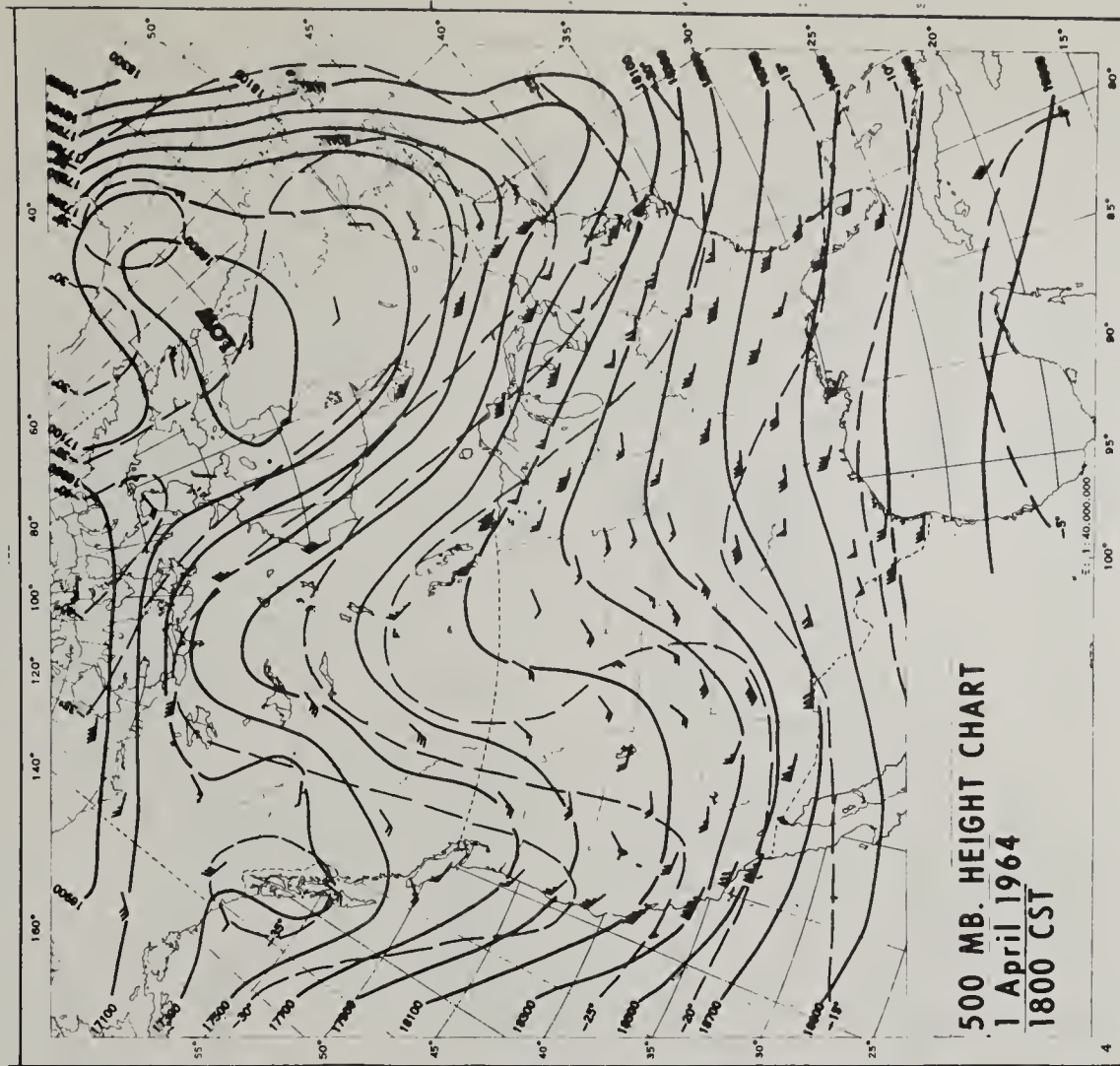
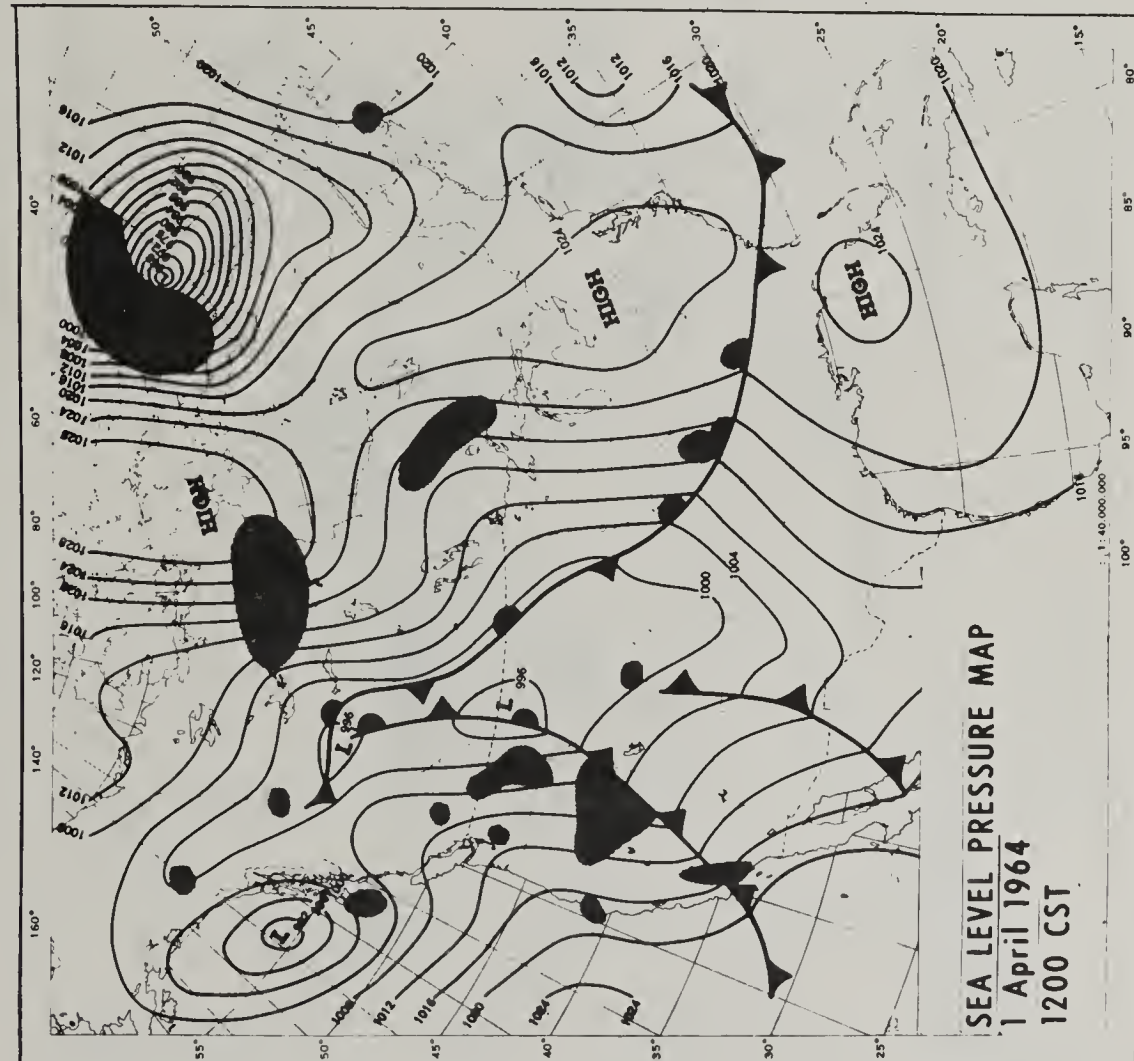


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Fifteen			
6 April 1964	Dissemination Site: K. of C. Building	Dissemination: 2229.7 gm	
Sampling Arcs: 4, 5, 6	Dissemination from 2040 to 2140 CST	Lot Size No. 1339-2	
<u>Disseminator Feed Voltage Readings</u>			
5.0 v (entire dissemination)			
<u>Sampling Data</u>		Sequential Surface Dosages	
Total Surface Dosages			
<u>Meteorological Data</u>			
Pilco' Balloons	WBAS, Lambert Field		
CP~ and PIA Rawinsondes	Outlying Station Winds		
Free Radiosonde	KMOX Tower Winds (except middle level)		
Dissemination Site Winds			
<u>Commentary</u>			
The tracer cloud was not completely contained within the sampling arcs.			
<u>Synoptic Situation</u>			
Squall lines with attendant showers and thundershowers developed during the afternoon and passed through the St. Louis area during the course of the experiment. The first and second lines passed through at about 1800 and 2100 CST, respectively. The winds slowed and backed from west during squall line passage to southwest following passage.			

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

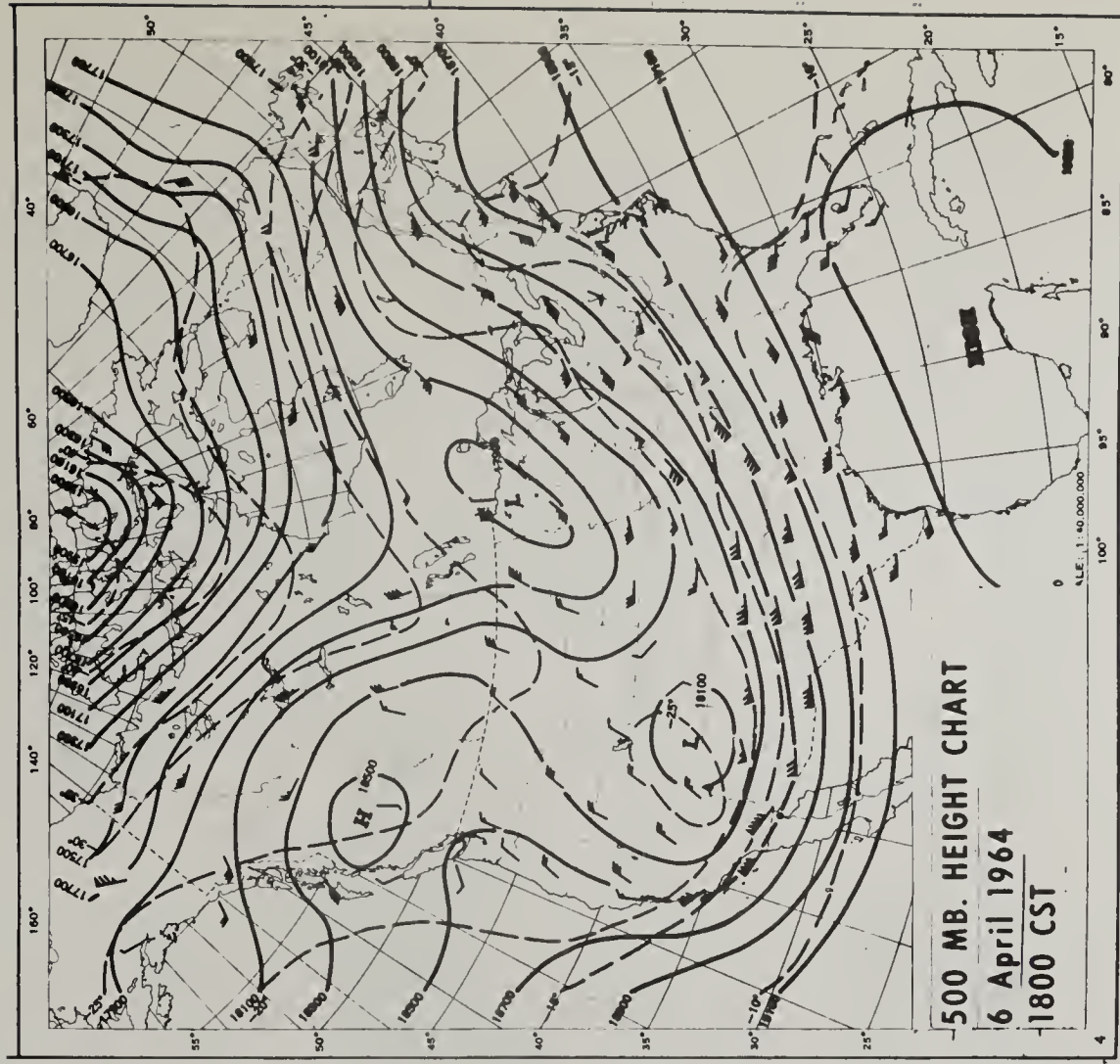
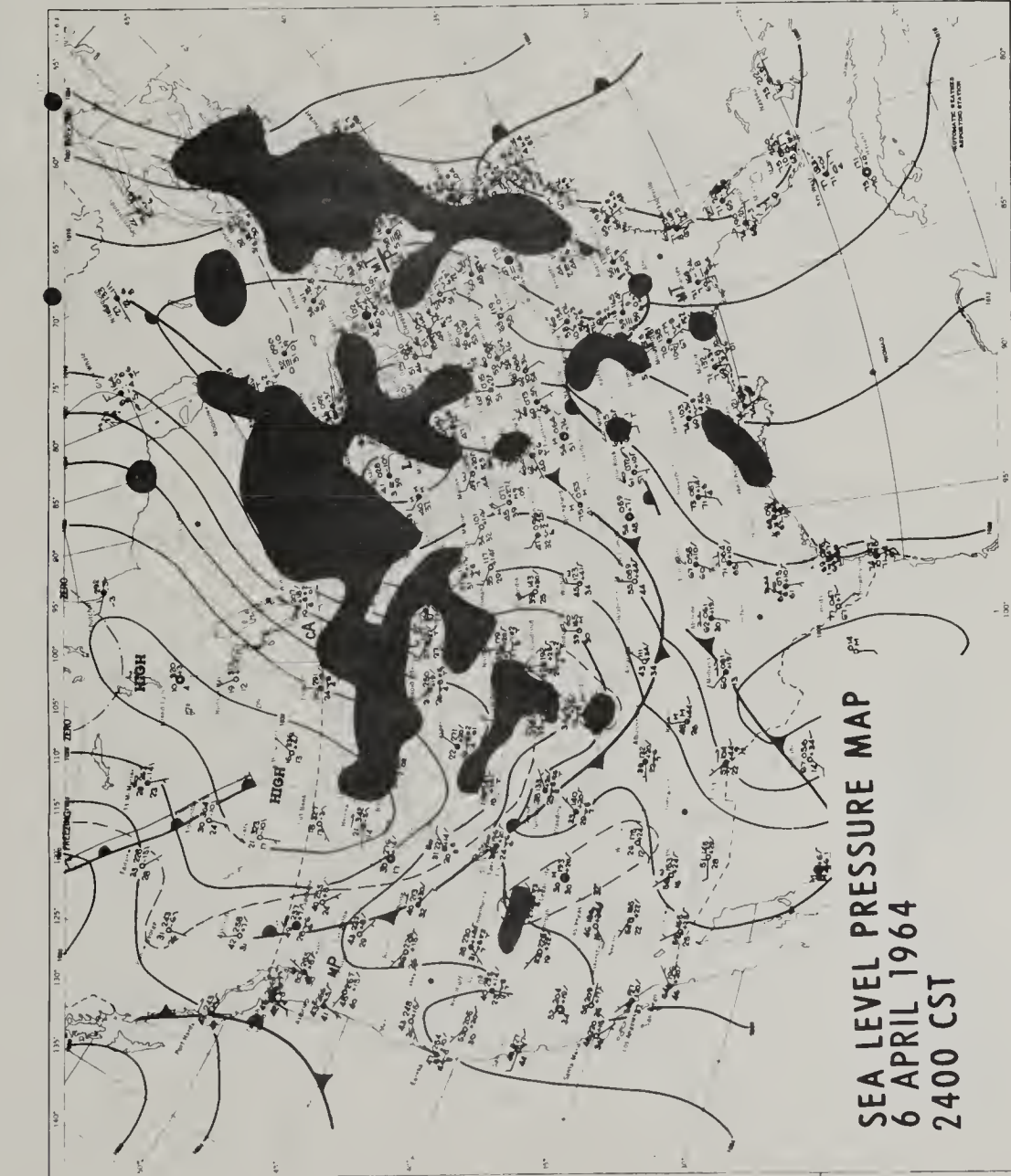


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Sixteen		
7 April 1964	Dissemination Site: Forest Park	Dissemination: 1761.1 gm
Sampling Arcs: 1, 2, 3	Dissemination from 2048 to 2148 CST	Lot Size No. 1339-2
<u>Disseminator Feed Voltage Readings</u>		
6.0 v (entire dissemination)		
<u>Sampling Data</u>		
Total Surface Dosages	Sequential Surface Dosages	
<u>Meteorological Data</u>		
Tetroom	Dissemination Site Winds	
Pilot Balloons	WBAS, Lambert Field	
CBI and PIA Rawinsondes	Outlying Station Winds	
Free Radiosonde	KMOX Tower Winds (except middle level)	
<u>Commentary</u>		
None.		
<u>Synoptic Situation</u>		
Strong, increasing northwesterly winds, cloudy skies, and strong cold air advection existed following the passage of a cold front.		

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Seventeen

8 April 1964 Dissemination Site: Forest Park Dissemination: 2593.3 gm
 Sampling Arcs: 1, 2, 3 Dissemination from 2030 to 2130 CST Lot Size No. 1339-2

Disseminator Feed Voltage Readings

7.5 v (entire dissemination)

Sampling Data

Total Surface Dosages (incomplete)

Meteorological Data

Pilot Balloons	WBAS, Lambert Field
CBI and PIA Rawinsondes	Outlying Station Winds
Free Radiosonde	KMOX Tower Winds (except middle level)
Dissemination Site Winds	

Commentary

The tracer cloud almost completely missed the sampling arcs; no useful data were obtained.

Synoptic Situation

Moderate westerly winds and clear skies persisted in response to a high pressure area centered over Oklahoma.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

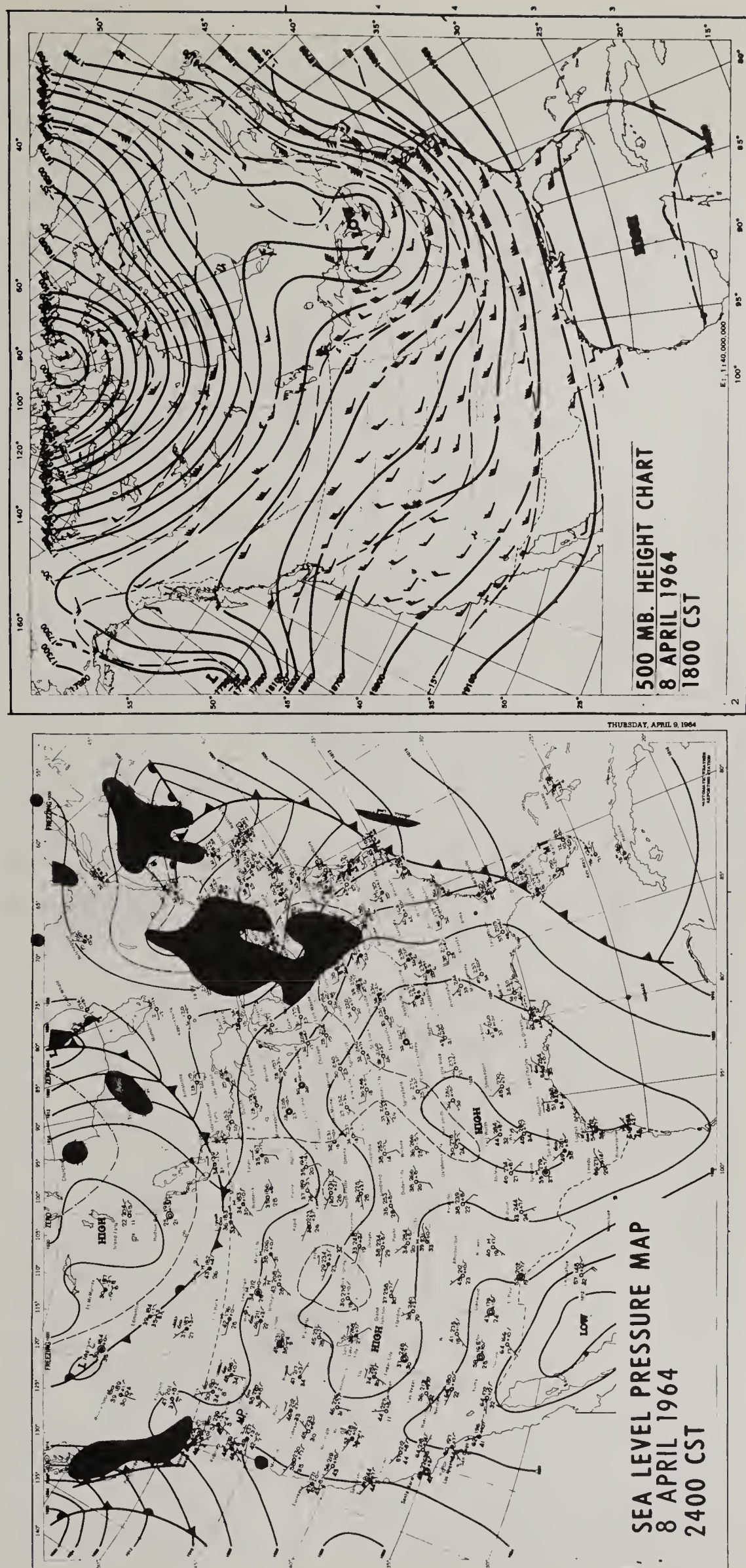


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Eighteen

9 April 1964 Sampling Arcs: 1, 2, 3	Dissemination Site: Forest Park Dissemination from 2045 to 2145 CST	Dissemination: 2256.8 gm Lot Size No. 1339-2
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Disseminator Feed Voltage Readings

6.8 v (entire dissemination)

Sampling Data

Total Surface Dosages	Sequential Surface Dosages	Dosages in the Vertical
-----------------------	----------------------------	-------------------------

Meteorological Data

Pilot Balloons	WBAS, Lambert Field
CBI and PIA Rawinsondes	Outlying Station Winds
Free Radiosonde	KMOX Tower Winds (except middle level)
Dissemination Site Winds	

Commentary

Several samplers on the outer sampling arc apparently were turned off before the last elements of the tracer cloud had reached them; significant loss of dosage was not considered to have occurred. One sampler contained contamination dosage.

Synoptic Situation

Moderate southwesterly winds and partly cloudy skies occurred in response to a high pressure area centered on the Arkansas-Mississippi border.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

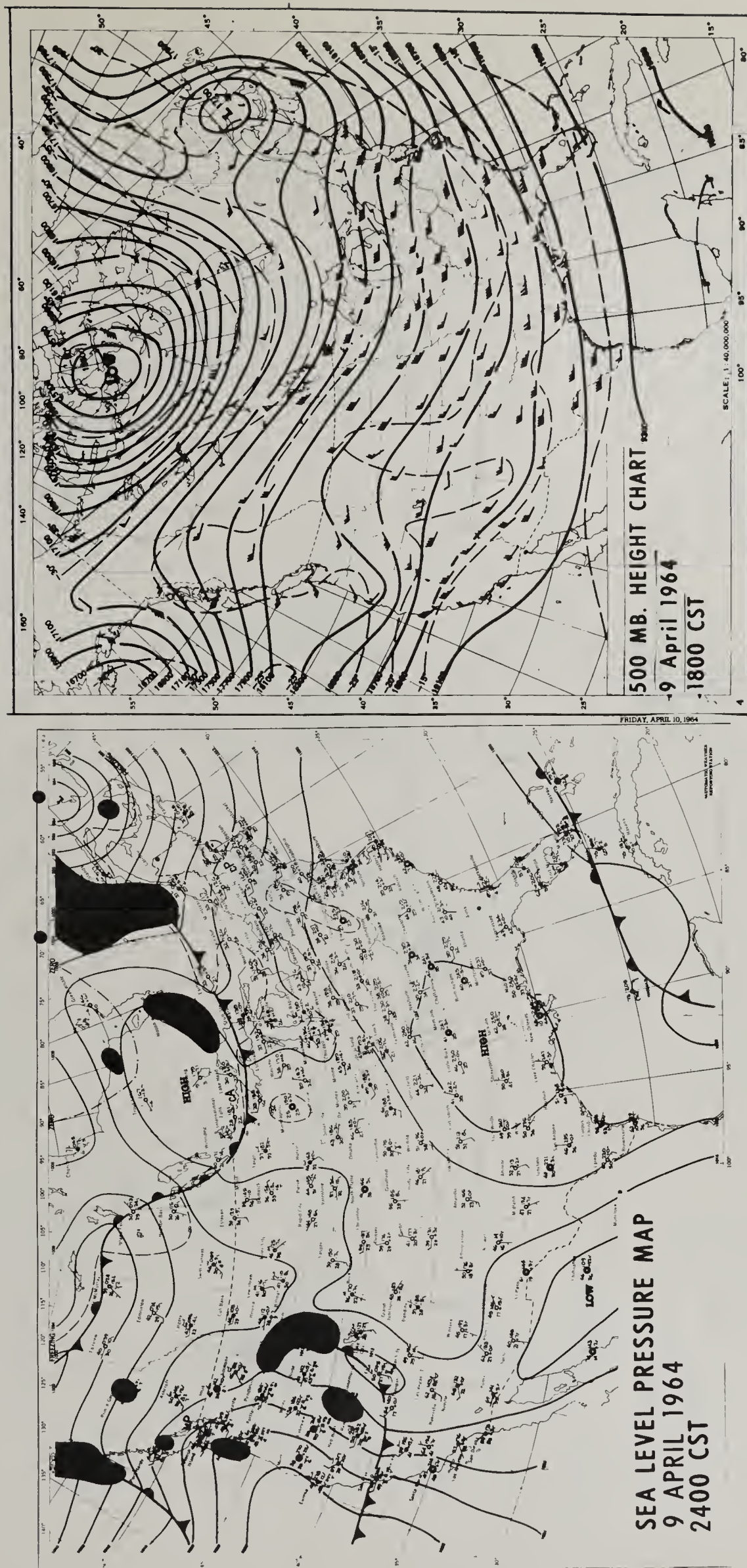


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Nineteen		
2 June 1964 Sampling Arcs: 1, 2, 3	Dissemination Site: Forest Park Dissemination from 1030 to 1130 CST	Dissemination: 7532.6 gm Lot Size No. 1339-5
<u>Disseminator Feed Voltage Readings</u>		
15.0 v (1030 CST); 13.5 v (1045 CST); 12.0 v (1100, 1115, 1130 CST)		
<u>Sampling Data</u>		
Total Surface Dosages	Sequential Surface Dosages	
<u>Meteorological Data</u>		
Pilot Balloons CBI and PIA Rawinsondes Dissemination Site Winds	WBAS, Lambert Field Outlying Station Winds KMOX Tower Winds	
<u>Commentary</u>		
Three samplers contained contamination dosage.		
<u>Synoptic Situation</u>		
Gusty westerly winds and partly cloudy skies existed. The low level circulation was dominated by a high pressure cell centered over Western Kansas.		

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

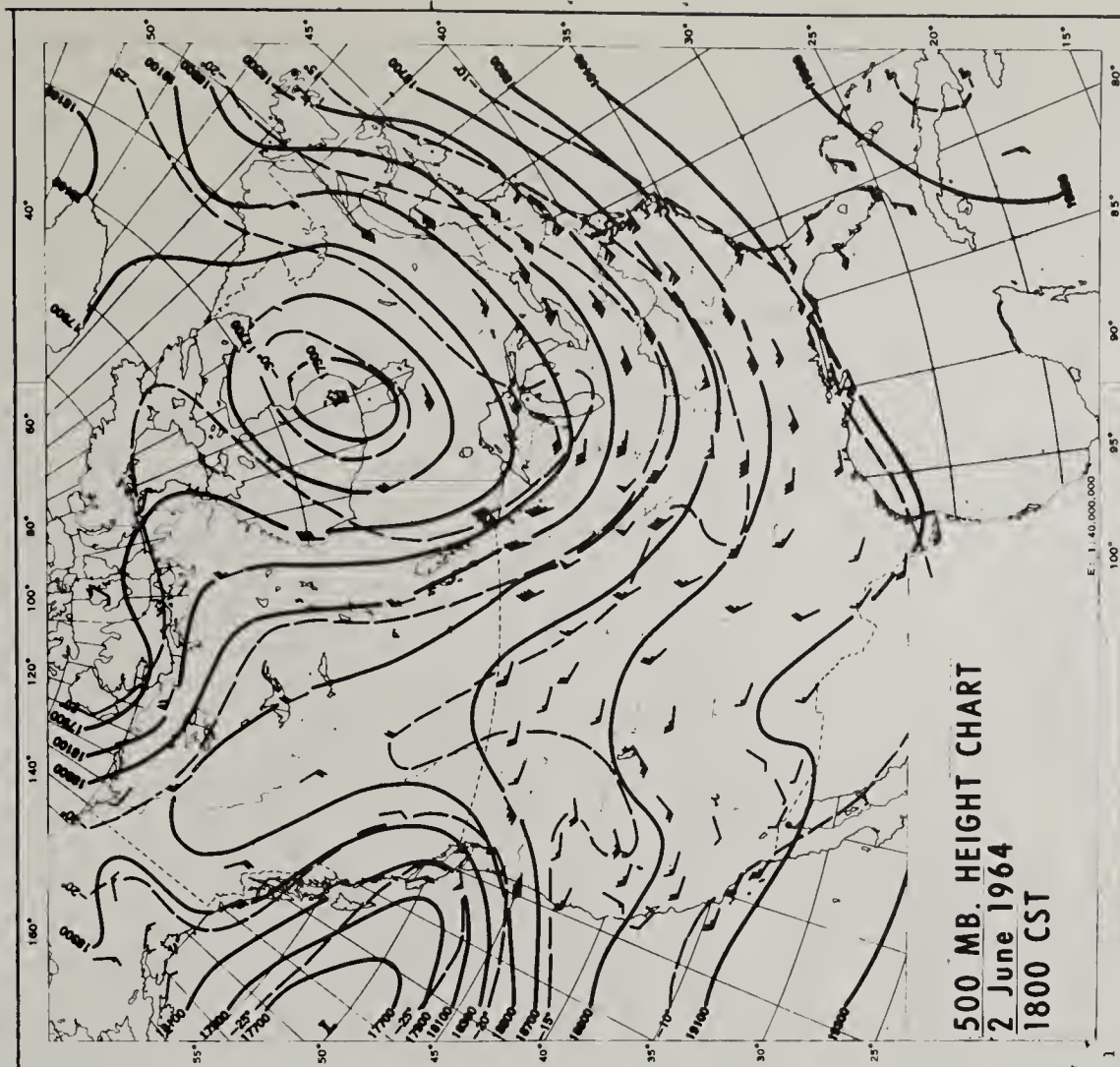


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Twenty		
3 June 1964	Dissemination Site: Forest Park	Dissemination: 7383.0 gm
Sampling Arcs: 1, 2, 3	Dissemination from 1040 to 1140 CST	Lot Size No. 1339-5
<u>Disseminator Feed Voltage Readings</u>		
12.5 v (entire dissemination)		
<u>Sampling Data</u>		Sequential Surface Dosages
Total Surface Dosages		
<u>Meteorological Data</u>		
Tetron	Dissemination Site Winds	
Pilot Balloons	WBAS, Lambert Field	
CBI and PIA Rawinsondes	Outlying Station Winds	
Free Radiosonde	KMOX Tower Winds	
<u>Commentary</u>		
Two samplers contained contamination dosage.		
<u>Synoptic Situation</u>		
Light, variable winds and clear skies result from a high pressure area centered over the Arkansas-Mississippi border.		

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

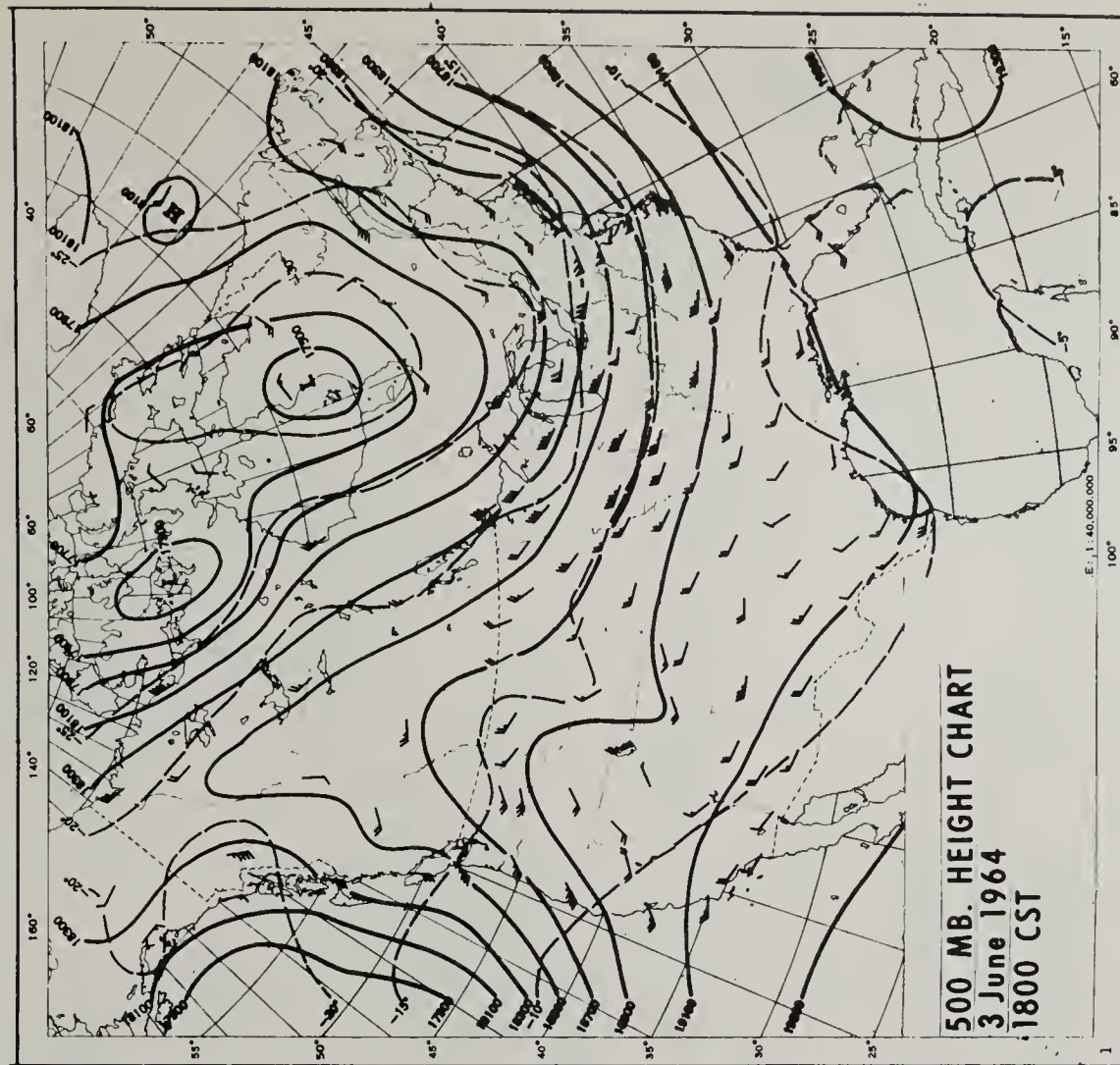


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Twenty-One			
4 June 1964	Dissemination Site: K. of C. Building	Dissemination: 9783.3 gm	
Sampling Arcs: 4, 6, 7	Dissemination from 1030 to 1130 CST	Lot Size No. 1339-4, 1339-5 ^a	
<u>Disseminator Feed Voltage Readings</u>			
19.3 v (1030 CST); 16.0 v (1050, 1115, 1130 CST)			
<u>Sampling Data</u>			
Total Surface Dosages	Sequential Surface Dosages	Dosages in the Vertical	
<u>Meteorological Data</u>			
Tetroon	Dissemination Site Winds		
Pilot Balloons	WBAS, Lambert Field		
CBI and PIA Rawinsondes	Outlying Station Winds		
Free Radiosonde	KMOX Tower Winds		
<u>Commentary</u>			
One sampler contained contamination dosage.			
<u>Synoptic Situation</u>			
Decreasing south southwesterly winds and cloudy skies existed. An advancing shower area was located in western Missouri.			
<u>^a2673.2 gm of 1339-4 and 7110.0 gm of 1339-5.</u>			

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

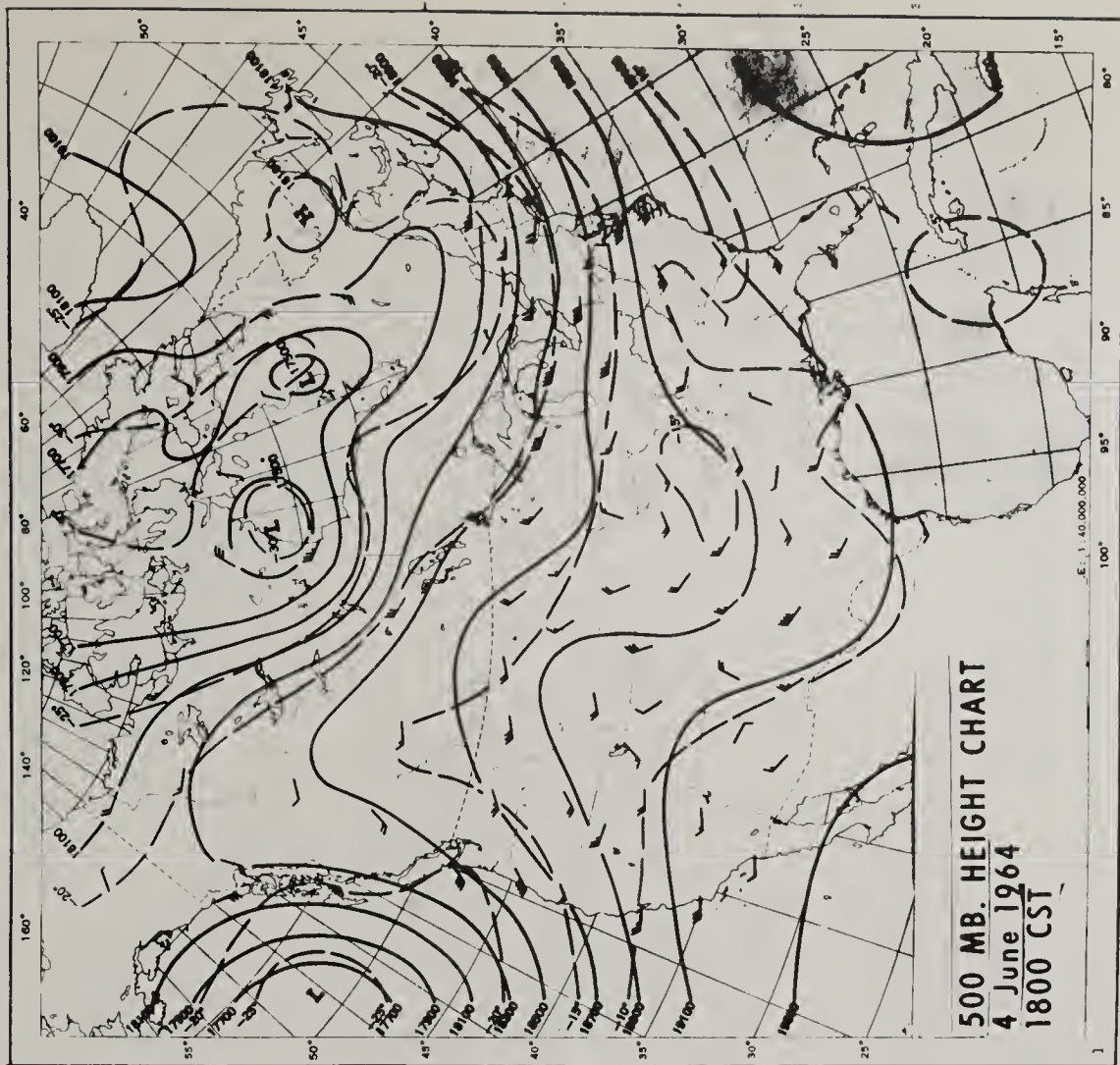


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

	Experiment Two	
6 June 1964	Dissemination Site: Forest Park	Dissemination: 8724.3 gm
Sampling Arcs: 1, 2, 3	Dissemination from 1130 to 1230 CST	Lot Size No. 1339-4

Disseminator Feed Voltage Readings

16.0 v (entire dissemination)

Sampling Data

Total Surface Dosages	Sequential Surface Dosages
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Meteorological Data

Tetron	Dissemination Site Winds
Pilot Balloons	WBAS, Lambert Field
CBI and FIA Rawinsondes	Outlying Station Winds
Free Radiosonde	KMOX Tower Winds

Commentary

The left edge of the tracer cloud was not completely contained within the sampling arcs.

Synoptic Situation

Moderate southeasterly winds and cloudy skies persisted in advance of a low pressure area located over southwestern Missouri.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

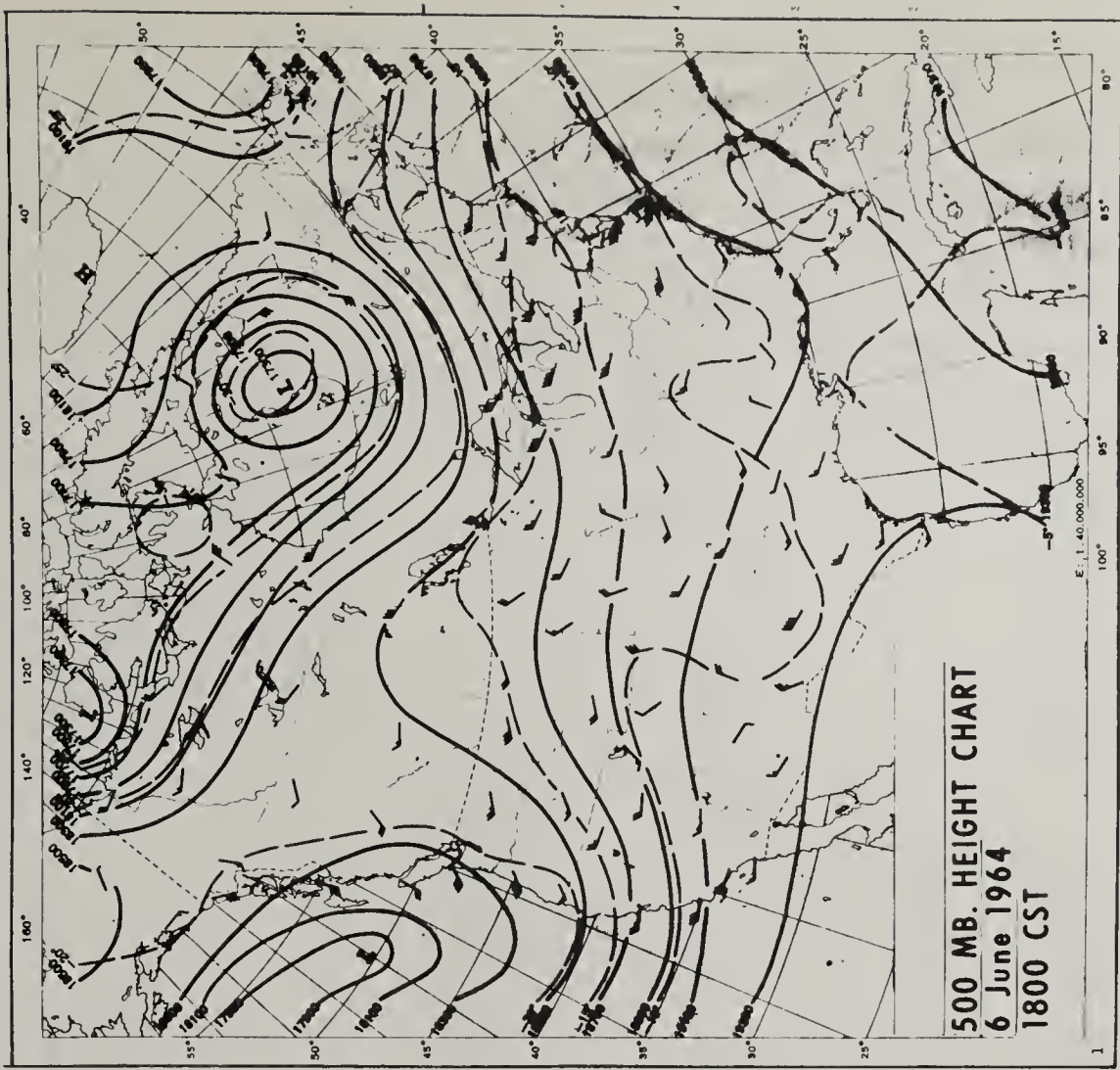
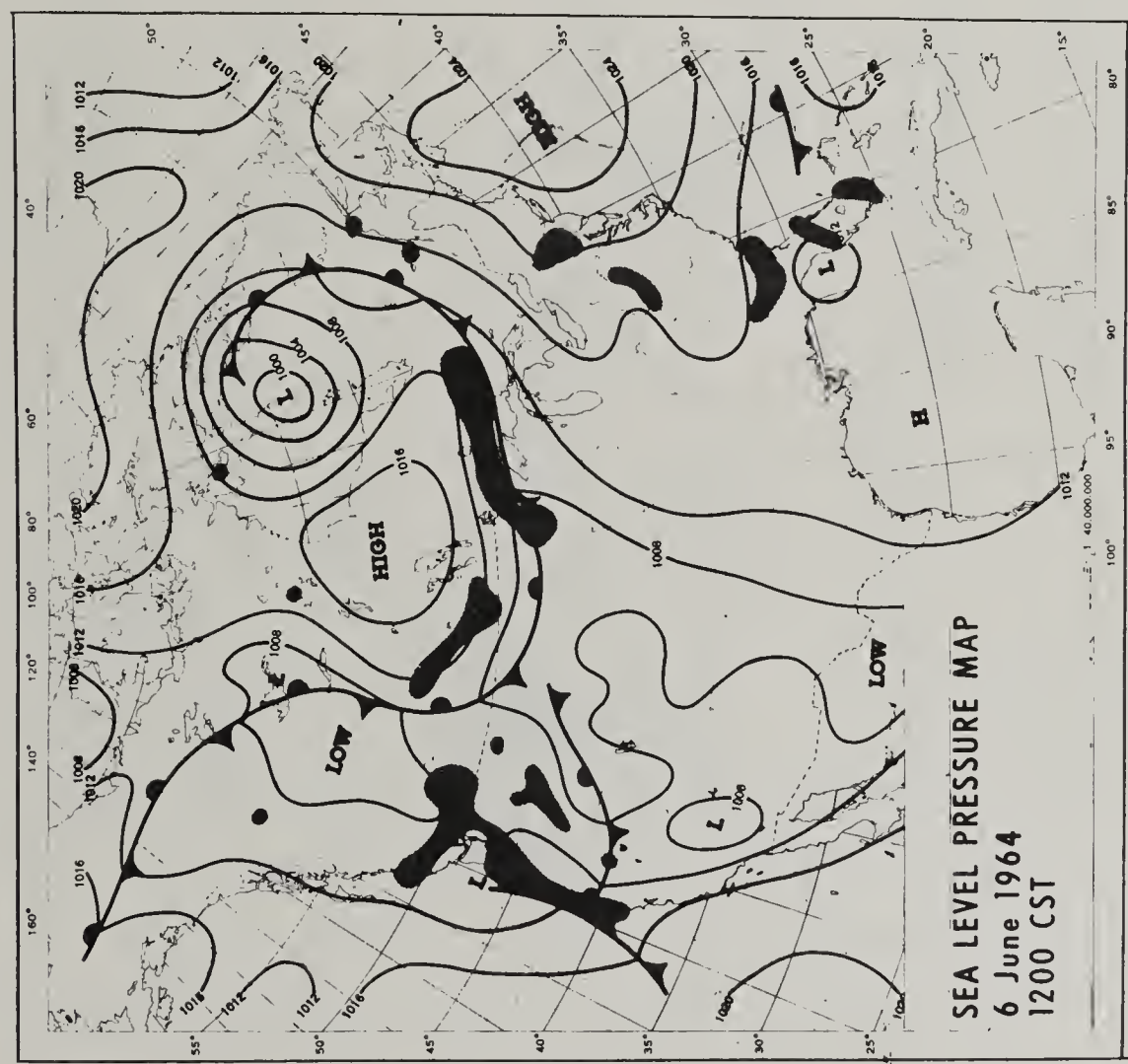


Table 1. EXPERIMENT SUMMARY SHEETS

Experiment Twenty-Three	
7 June 1963	Dissemination Site: Forest Park
Sampling Arcs: 1, 2, 3	Dissemination from 1432 to 1232 CST
	Dissemination: 8064.9 gm
	Lot Size No. 1320
<u>Disseminator Feed Voltage Readings</u>	
14.5 v (entire dissemination)	
Sampling Data	
Total Surface Dosages	Sequential Surface Dosages
Meteorological Data	
Tetron	Dissemination Site Winds (Speed missing)
Pilot Balloons	WBAS, Lambert Field
CBI and PIA Rawinsondes	Outlying Station Winds
Free Radiosonde	KMOX Tower Winds
Commentary	
The right edge of the tracer cloud missed the sampling arc.	
Synoptic Situation	
Light southerly winds and cloudy skies existed in advance of a developing storm center which was located over the Rocky Mountains.	

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

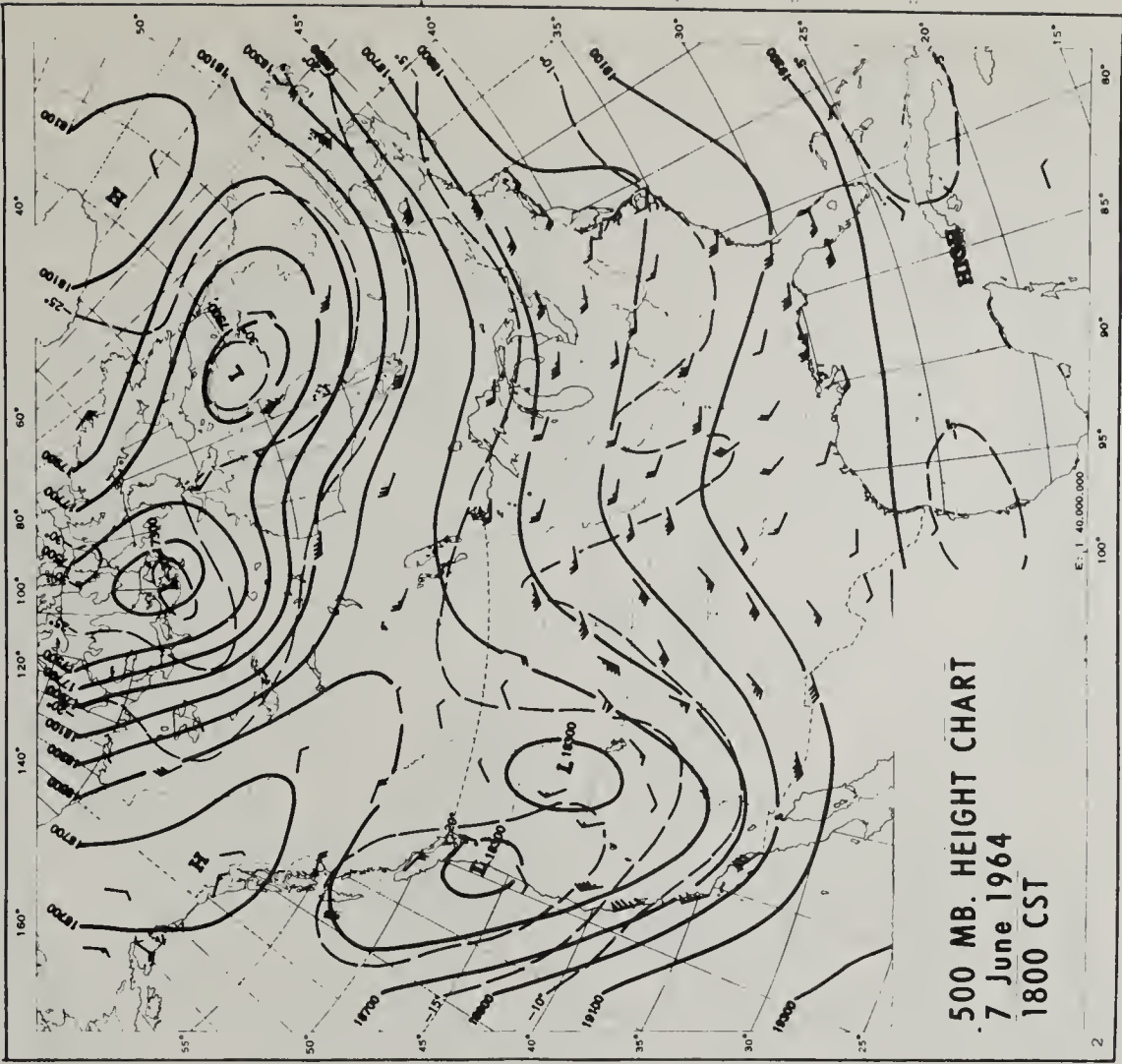
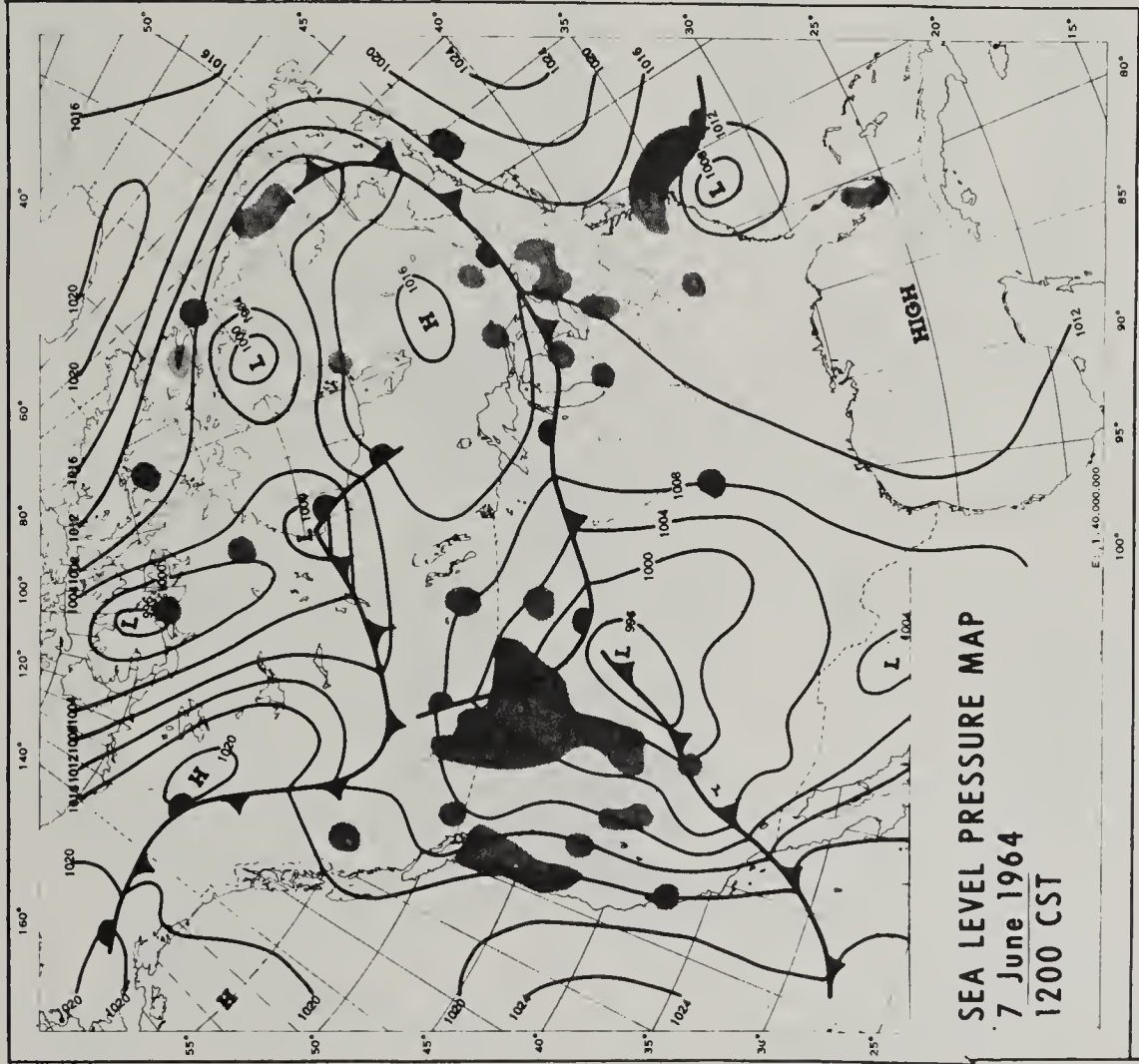


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Twenty-Four			
9 June 1964	Dissemination Site: Forest Park	Dissemination: 9019.0 gm	
Sampling Arcs: 1, 2, 3	Dissemination from 1030 to 1130 CST	Lot Size No. 1339-1	
<u>Disseminator Feed Voltage Readings</u>			
16.0 v (entire dissemination)			
		<u>Sampling Data</u>	Sequential Surface Dosages
Total Surface Dosages			
<u>Meteorological Data</u>			
Tetroon	Dissemination Site Winds		
Pilot Balloons	WBAS, Lambert Field		
CBI and PIA Rawinsondes	Outlying Station Winds (except Hazelwood)		
Free Radiosonde	KMOX Tower Winds		
<u>Commentary</u>			
One sampler contained contamination dosage.			
<u>Synoptic Situation</u>			
Strong southwesterly winds and increasing cloudiness existed in advance of a cold front which was located in northwestern Missouri.			

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

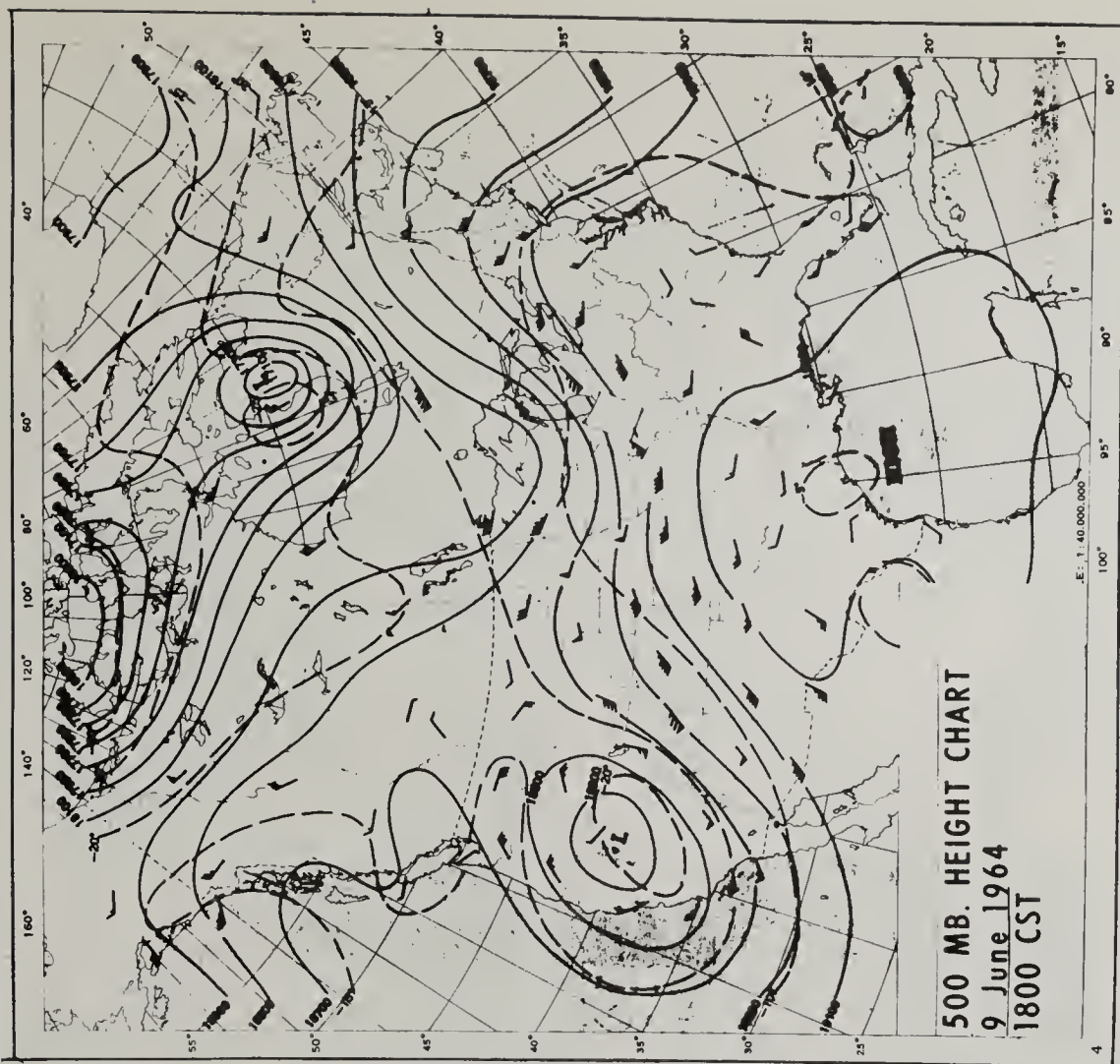
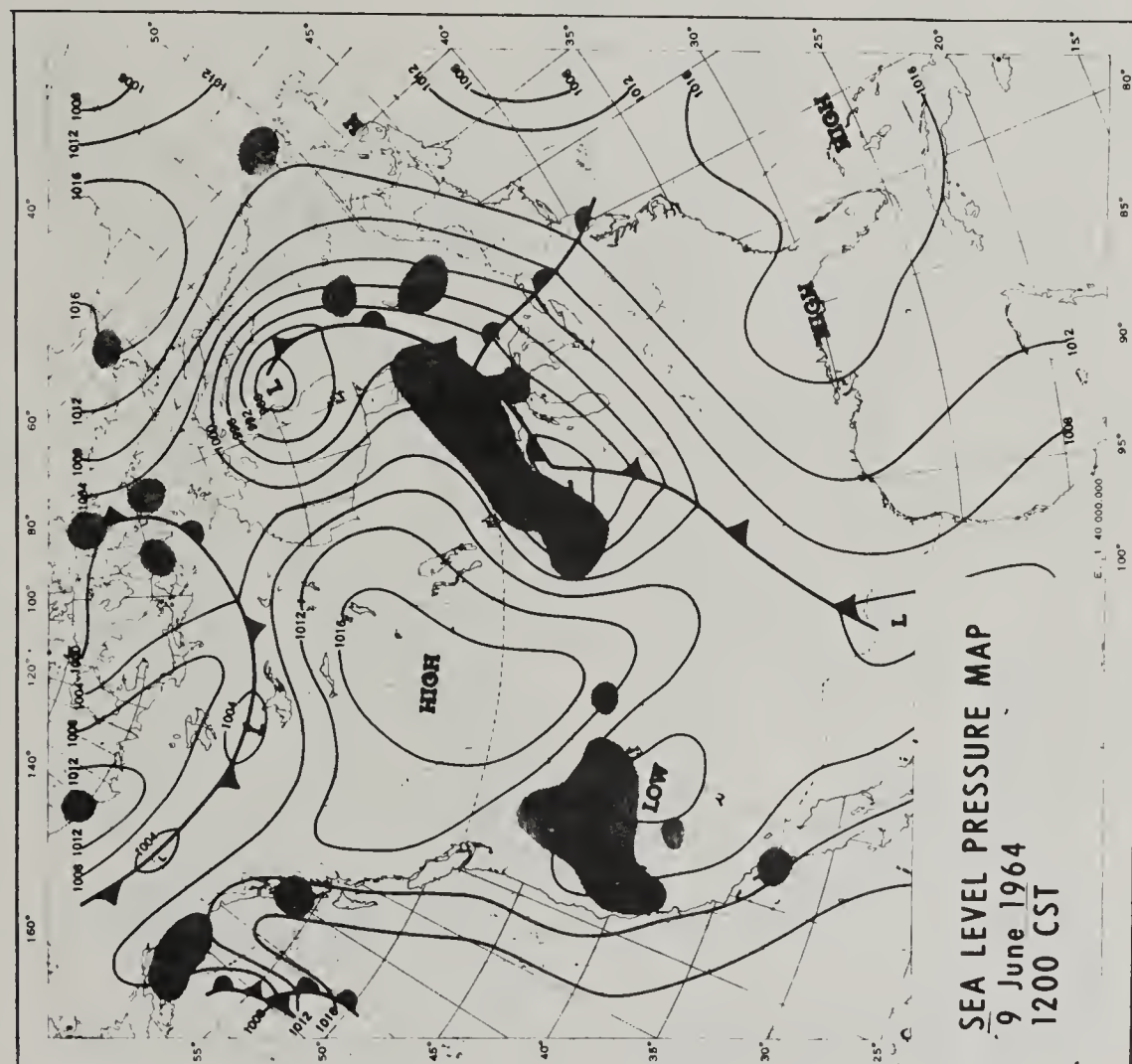


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Twenty-Five		
10 June 1964	Dissemination Site: Forest Park	Dissemination: 7801.4 gm
Sampling Arcs: 1, 2, 3	Dissemination from 1033 to 1133 CST	Lot Size No. 1339-1

Disseminator Feed Voltage Readings

13.5 v (entire dissemination)

Sampling Data

Total Surface Dosages	Sequential Surface Dosages	Dosages in the Vertical
-----------------------	----------------------------	-------------------------

Meteorological Data

Tetroon	Dissemination Site Winds
Pilot Balloons	WBAS, Lambert Field
CBI and PIA Rawinsondes	Outlying Station Winds (except Hazelwood)
Free Radiosonde	KMOX Tower Winds

Commentary

The left edge of the tracer cloud missed the sampling arcs. One sampler contained contamination dosage.

Synoptic Situation

Moderate north northeasterly winds and clear skies resulted from a high pressure area which was centered over Minnesota.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

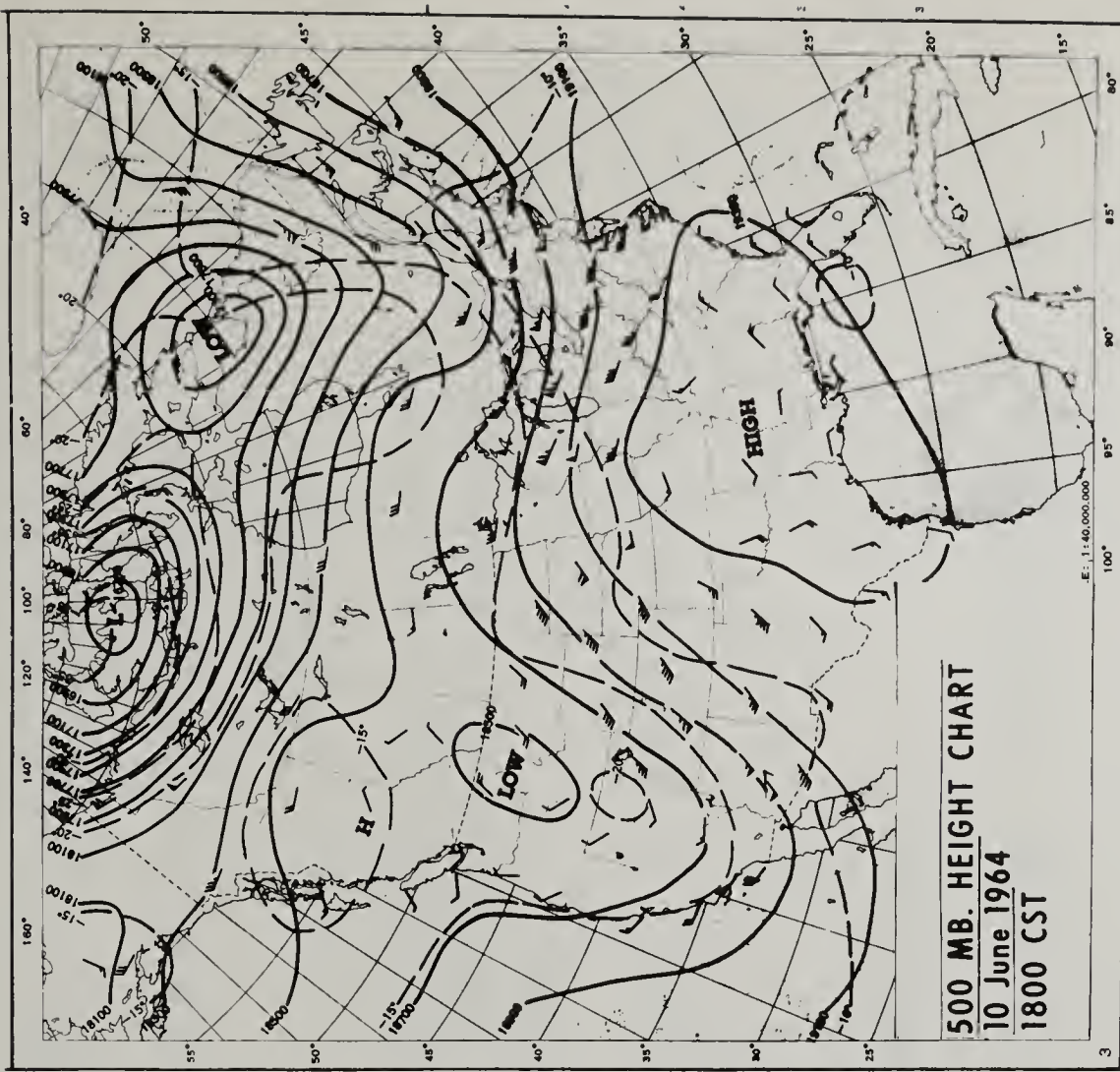
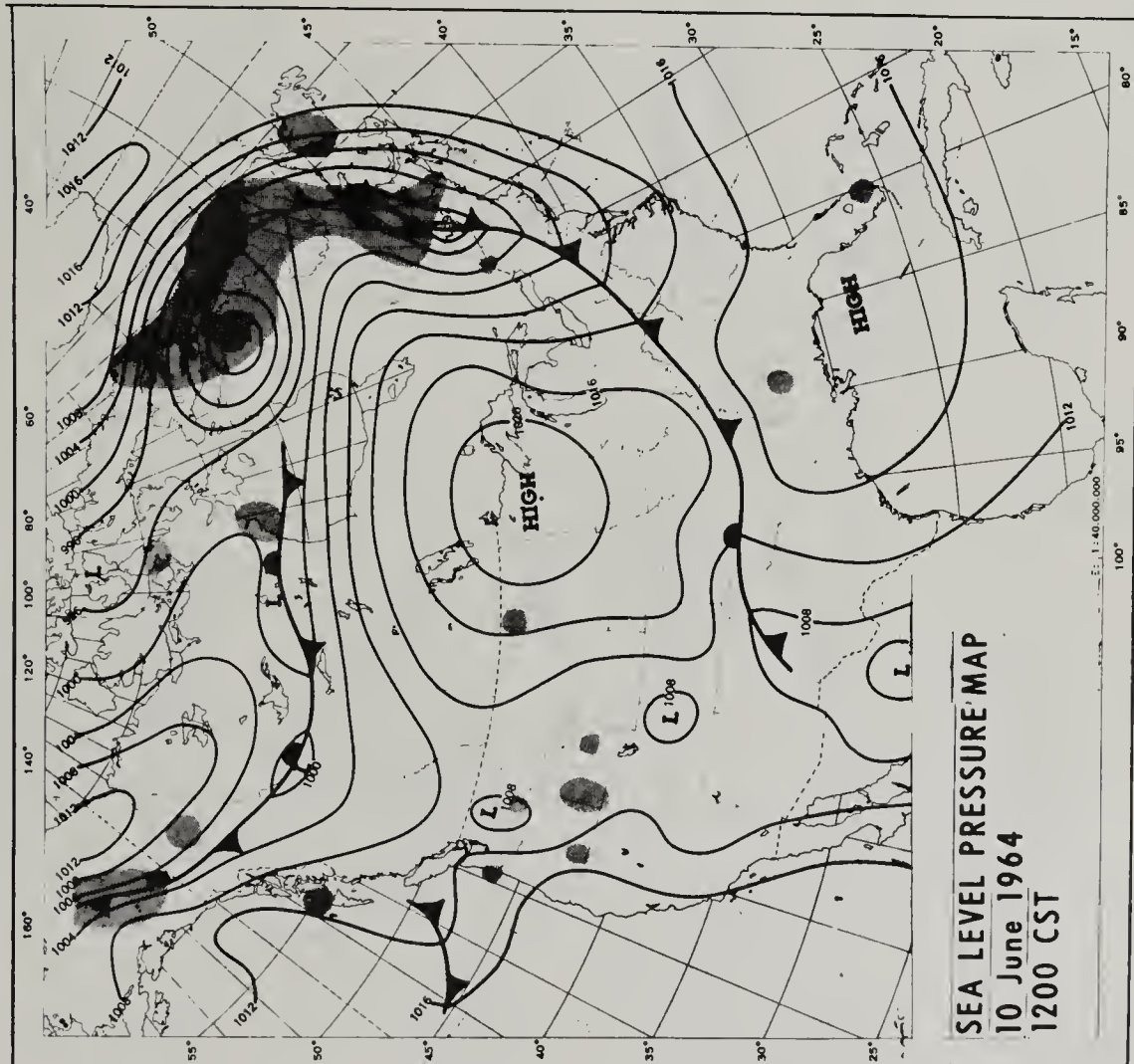


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Twenty-Six

11 June 1964
Sampling Arcs: 4, 6, 7

Dissemination Site: K. of C. Building
Dissemination from 1035 to 1135 CST

Dissemination: 9001.8 gm
Lot Size No. 1339-2

Disseminator Feed Voltage Readings

16.0 v (1035, 1050, 1105 CST); 15.5 v (1120, 1135 CST)

Sampling Data

Total Surface Dosages

Sequential Surface Dosages

Dosages in the Vertical

Meteorological Data

Tetroom
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde

Dissemination Site Winds (Direction missing)
WBAS, Lambert Field
Outlying Station Winds (except Hazelwood)
KMOX Tower Winds

Commentary

The tracer cloud missed the sampling arcs and at times moved more parallel than perpendicular to the arcs.

Synoptic Situation

A mesoscale front formed in the lee of the Ozark Mountains but weakened as it passed through the St. Louis area during the course of the experiment. Wind below and above the frontal inversion were east southeasterly and south south easterly, respectively.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

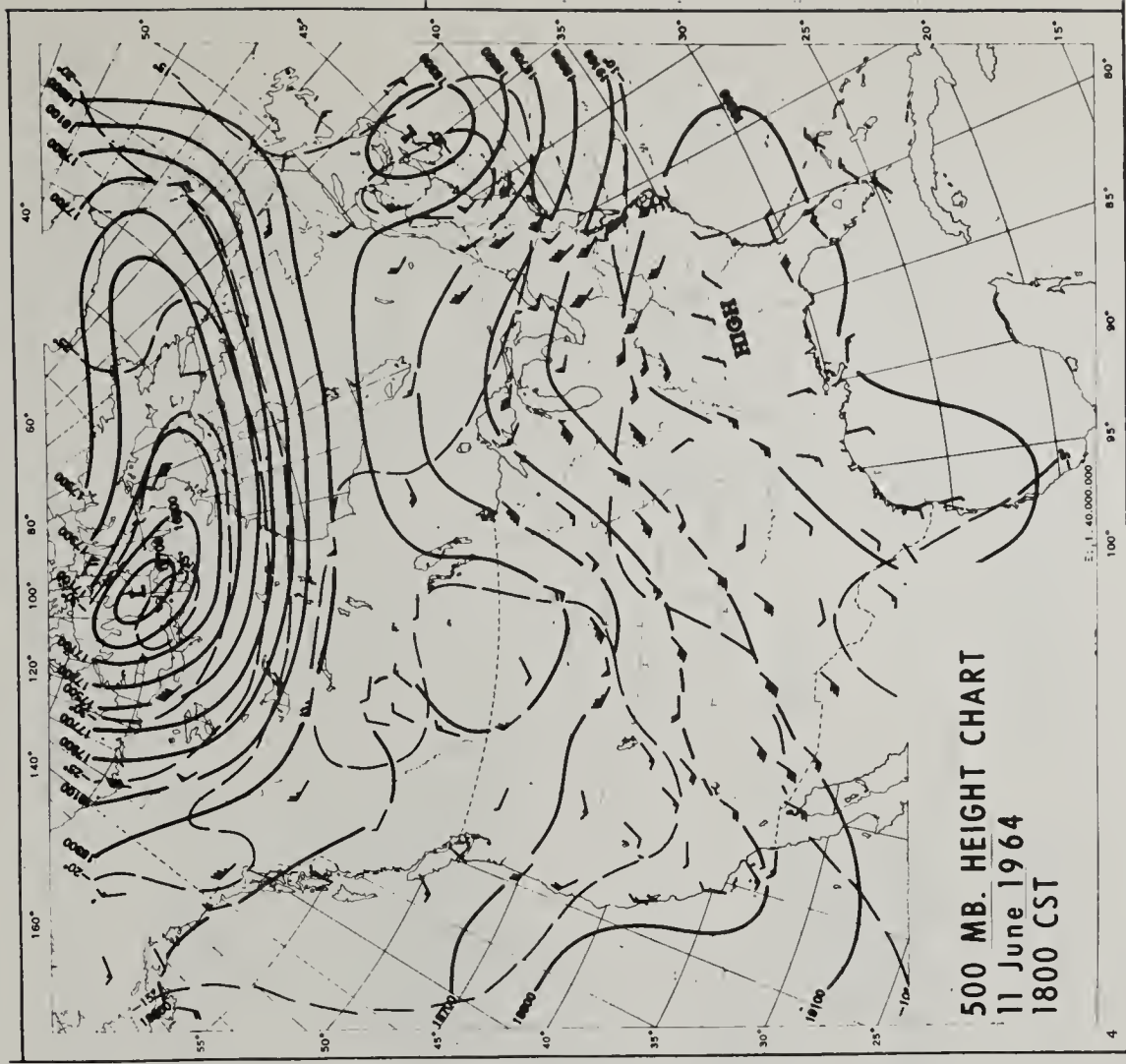
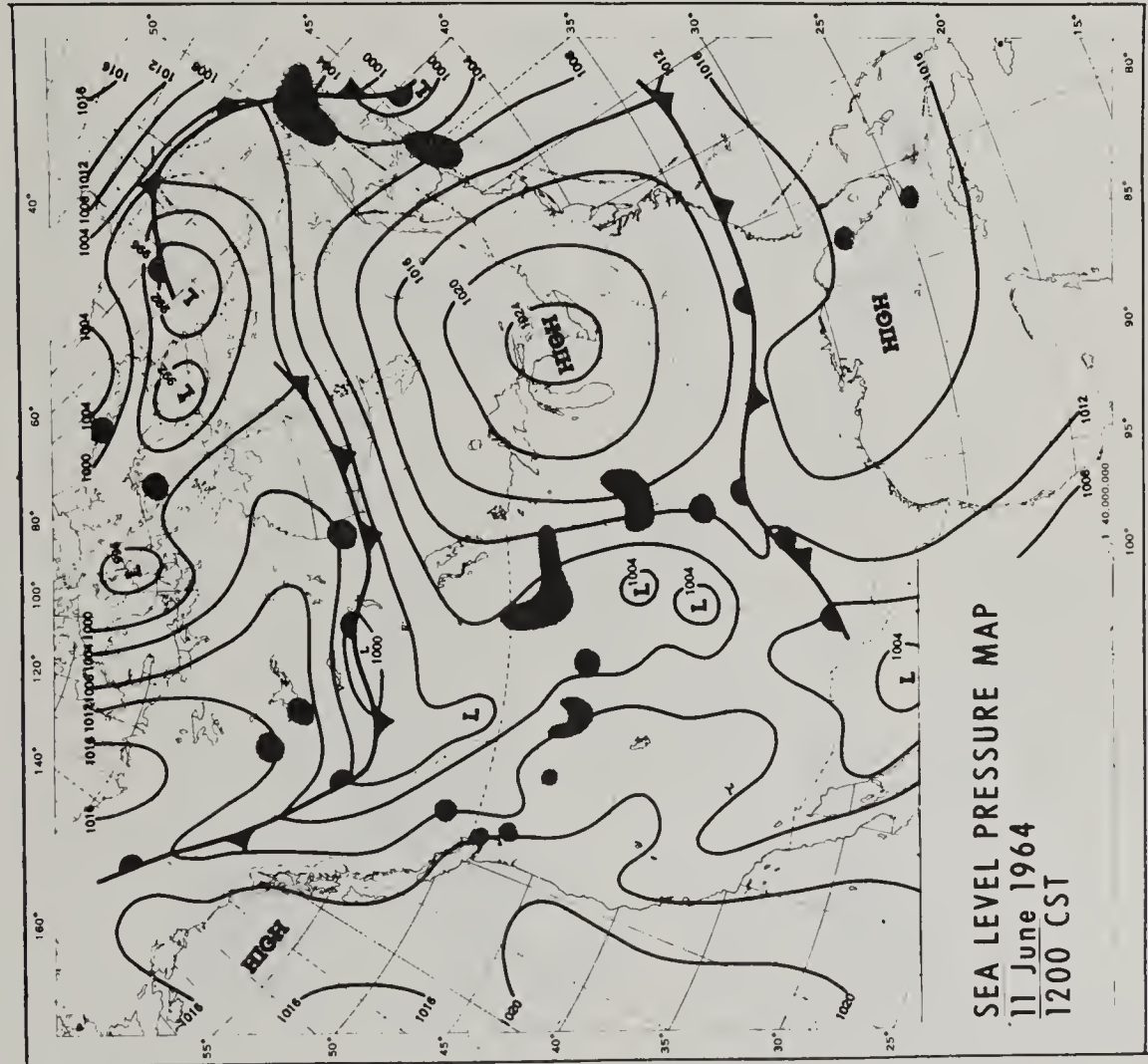


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Twenty-Seven			
10 October 1964	Dissemination Site: K. of C. Building	Dissemination: 7838.0 gm	
Sampling Arcs: 4, 5, 7	Dissemination from 1130 to 1230 CST	Lot Size No. 1339-2	
<u>Disseminator Feed Voltage Readings</u>			
15.5 v (1130, 1140 CST); 14.0 v (1200, 1230 CST)			
<u>Sampling Data</u>			
Total Surface Dosages (incomplete)			
<u>Meteorological Data</u>			
Tetroon	WBAS, Lambert Field		
Pilot Balloons	Outlying Station Winds		
CBI and PIA Rawinsondes	KMOX Tower Winds		
Free Radiosonde	Vertical Temperature Gradients on KMOX Tower		
Dissemination Site Winds (Direction missing)			

Commentary

The tracer cloud almost completely missed the sampling arcs; no useful results were obtained.

Synoptic Situation

Partly cloudy skies and light easterly winds were associated with a high pressure area which was centered over Wisconsin. A stagnating front extended from the Plains to Texas.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

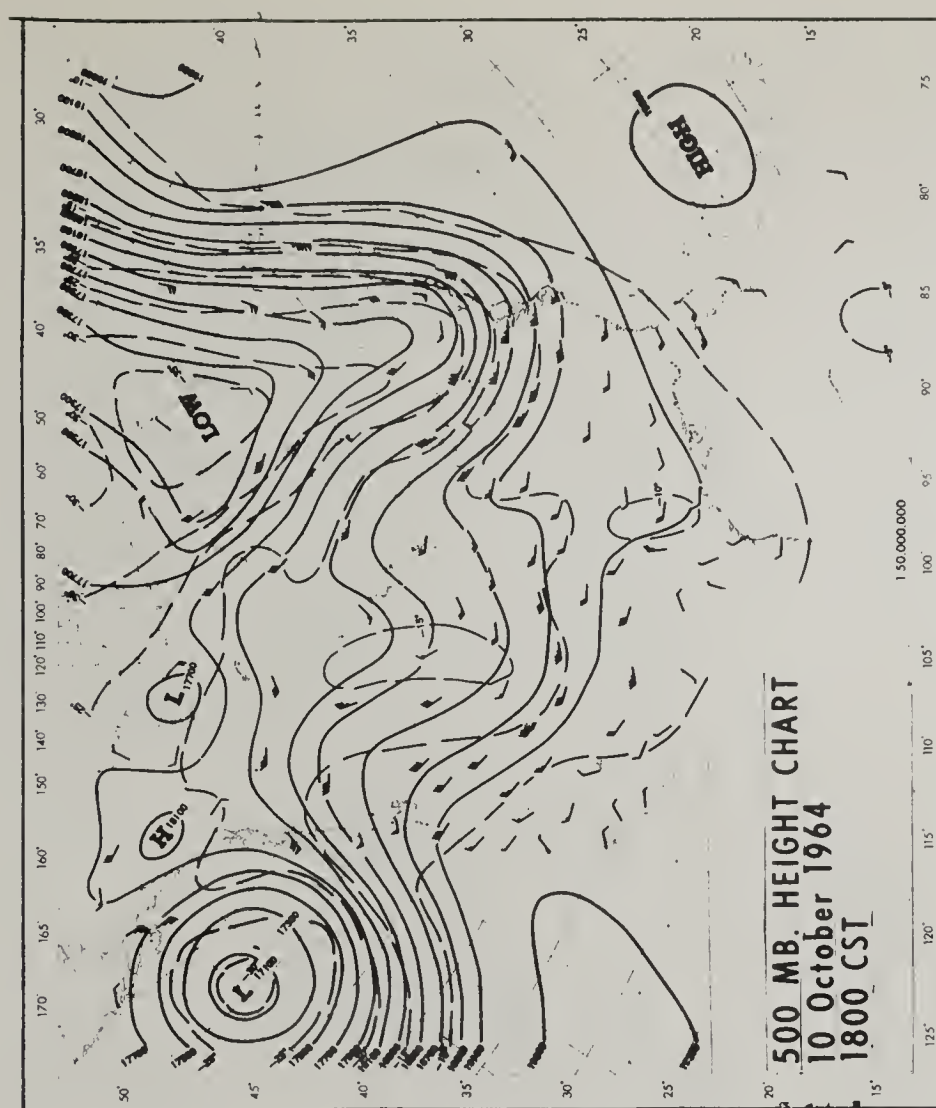
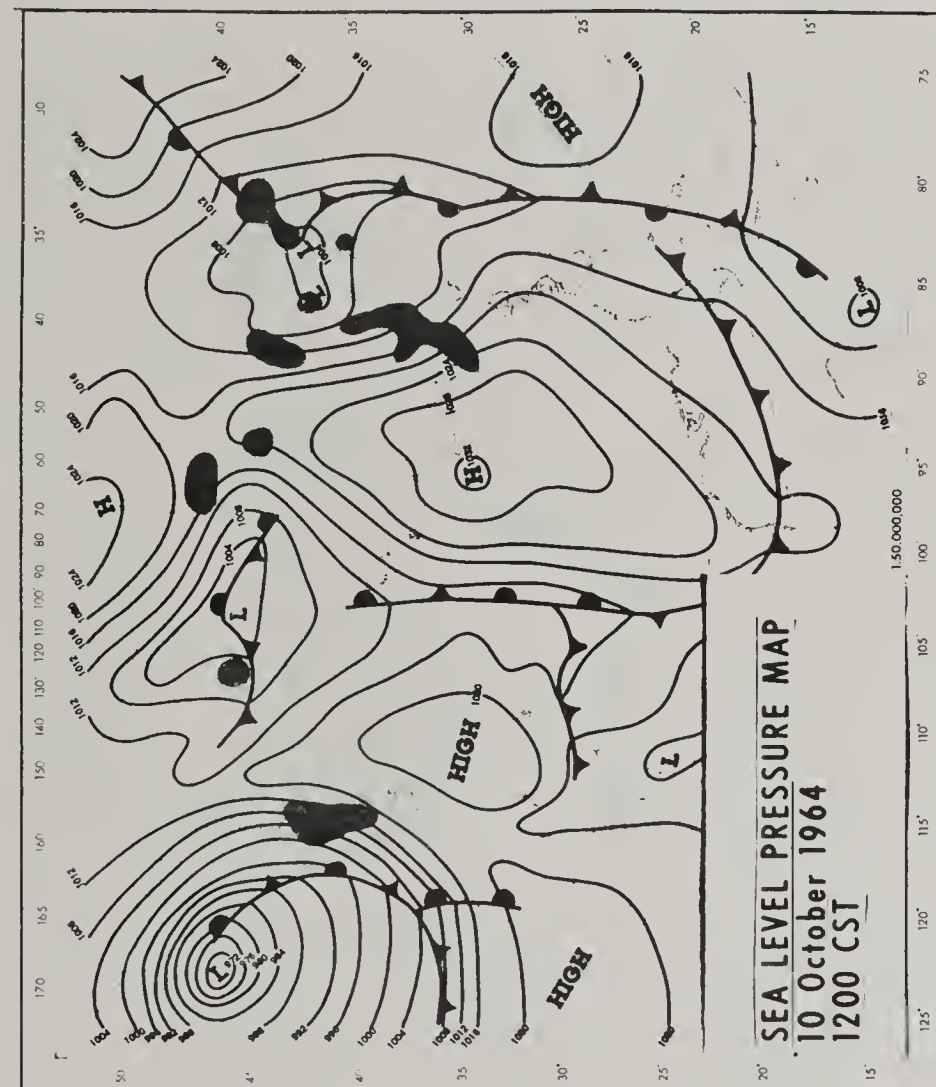


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Twenty-Eight			
11 October 1964	Dissemination Site: K. of C. Building	Dissemination: 7486.4 gm	
Sampling Arcs: 4, 5, 7	Dissemination from 1105 to 1205 CST	Lot Size No. 1339-2	
<u>Disseminator Feed Voltage Readings</u>			
14.0 v (1105, 1119 CST); 12.0 v (1135, 1205 CST)			
<u>Sampling Data</u>			
Total Surface Dosages	Sequential Surface Dosages	Dosages in the Vertical	
<u>Meteorological Data</u>			
Tetroom	WBAS, Lambert Field		
Pilot Balloons	Outlying Station Winds		
CBI and PIA Rawinsondes	KMOX Tower Winds		
Free Radiosonde	Vertical Temperature Gradients on KMOX Tower		
Dissemination Site Winds (Direction missing)			
<u>Commentary</u>			
The left edge of the tracer cloud missed the sampling arcs.			
<u>Synoptic Situation</u>			
Moderate south southeasterly winds and cloudy skies were associated with a high pressure area which was centered over Ohio.			

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

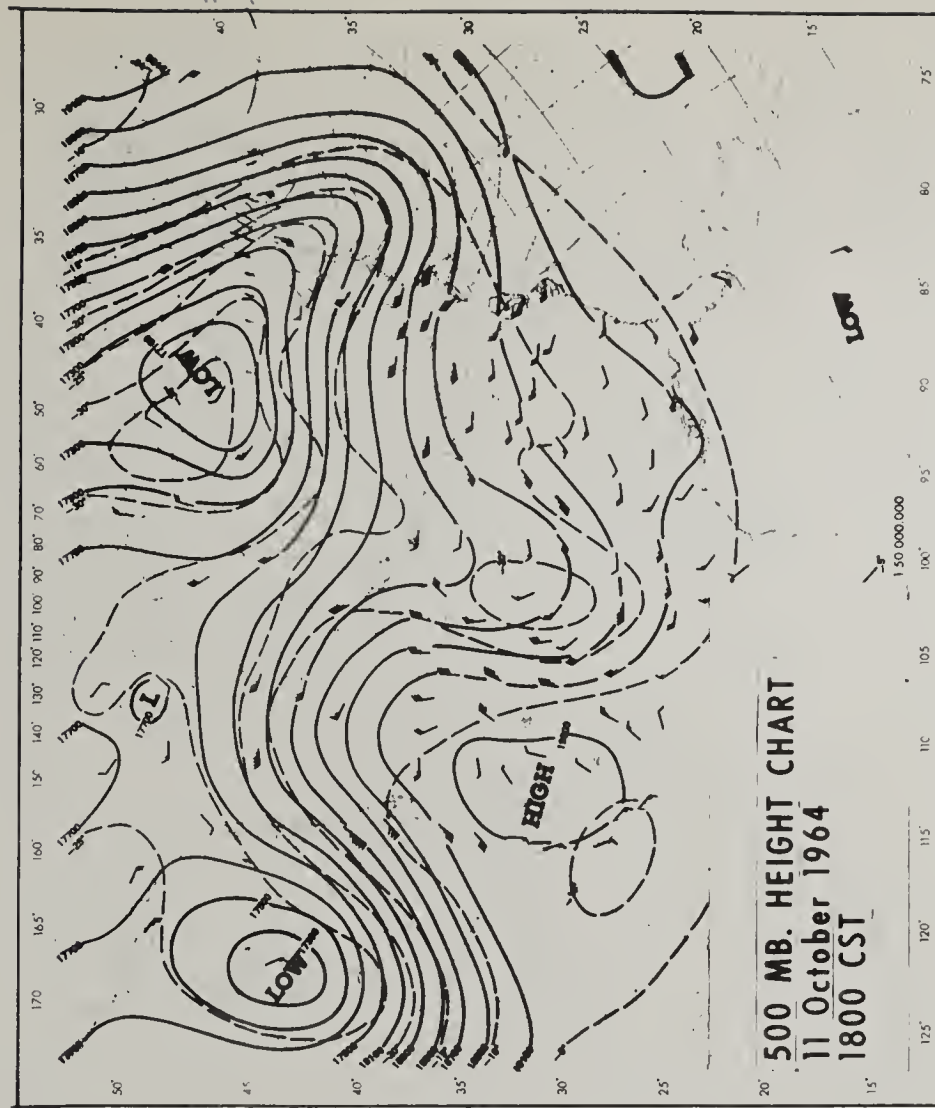
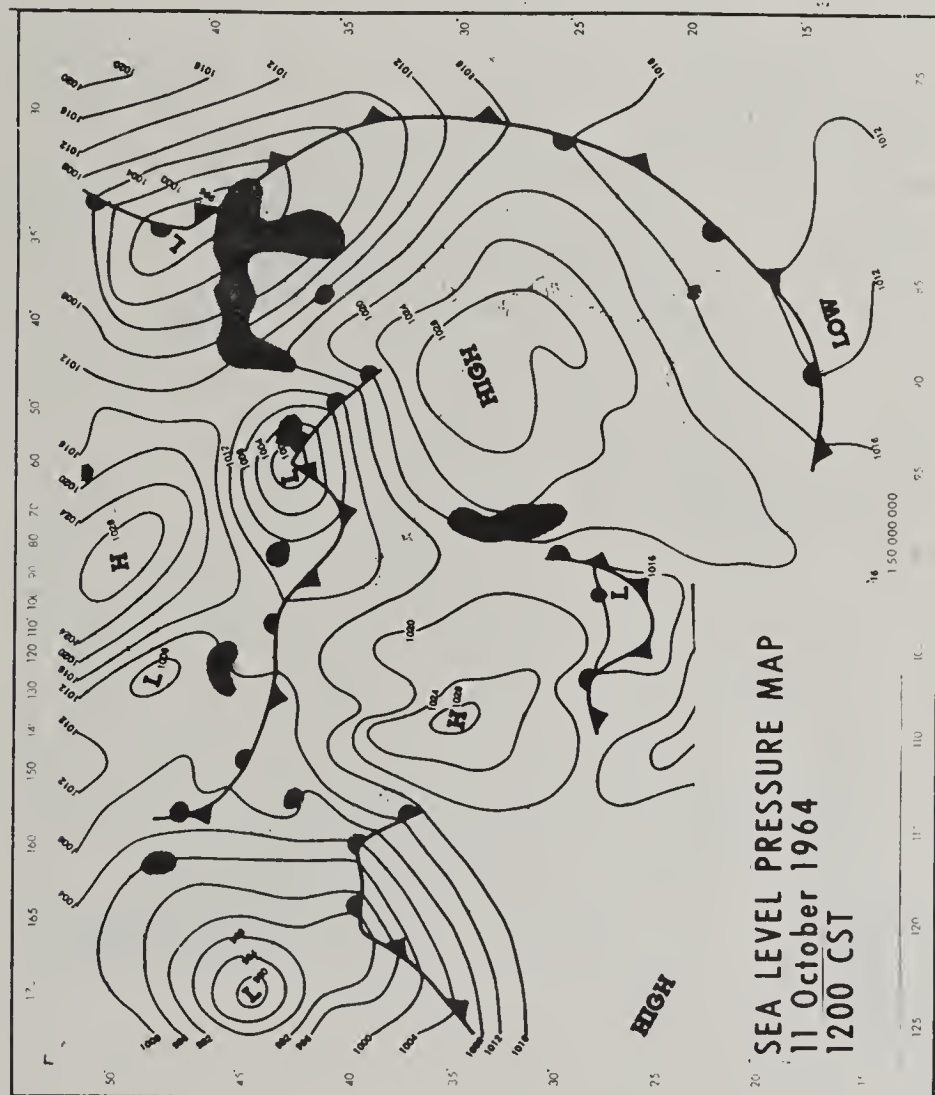


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

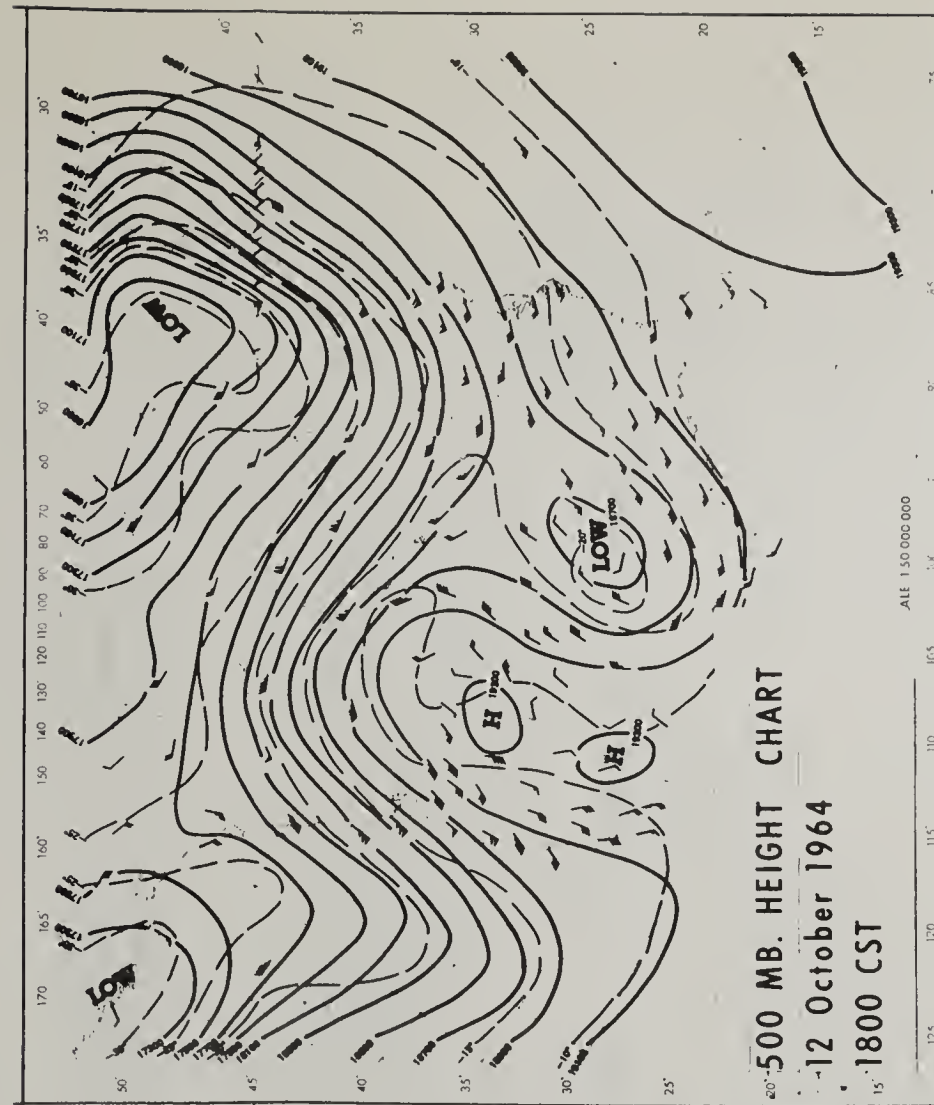
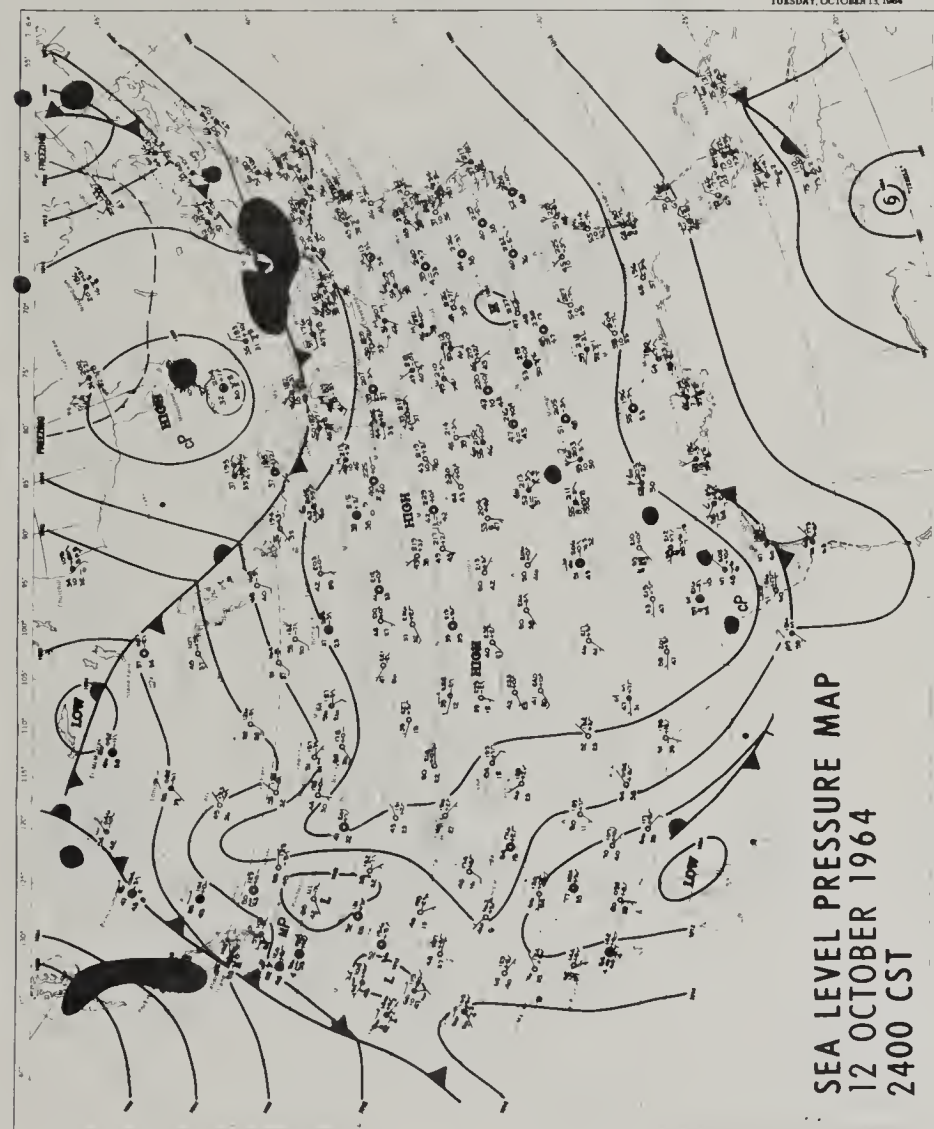


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Thirty

16 October 1964

Dissemination Site: K. of C. Building

Dissemination: 1707.7 gm

Sampling Arcs: 4, 5, 6

Dissemination from 2000 to 2100 CST

Lot Size No. 1339-2

Disseminator Feed Voltage Readings

5.0 v (entire dissemination)

Sampling Data

Total Surface Dosages

Sequential Surface Dosages

Dosages in the Vertical

Meteorological Data

Tetroom

Pilot Balloons

WBAS, Lambert Field

CBI and PIA Rawinsondes

Outlying Station Winds

Tethered Radiosonde

KMOX Tower Winds (except lower level)

Dissemination Site Winds

Vertical Temperature Gradients on KMOX Tower

Commentary

The right side of the tracer cloud missed the sampling arcs. The samplers on the outer sampling arc may have been turned off before the last elements of the tracer cloud had reached them; significant loss of dosage was not considered to have occurred.

Synoptic Situation

ght southerly winds and clear skies existed in advance of a cold front.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

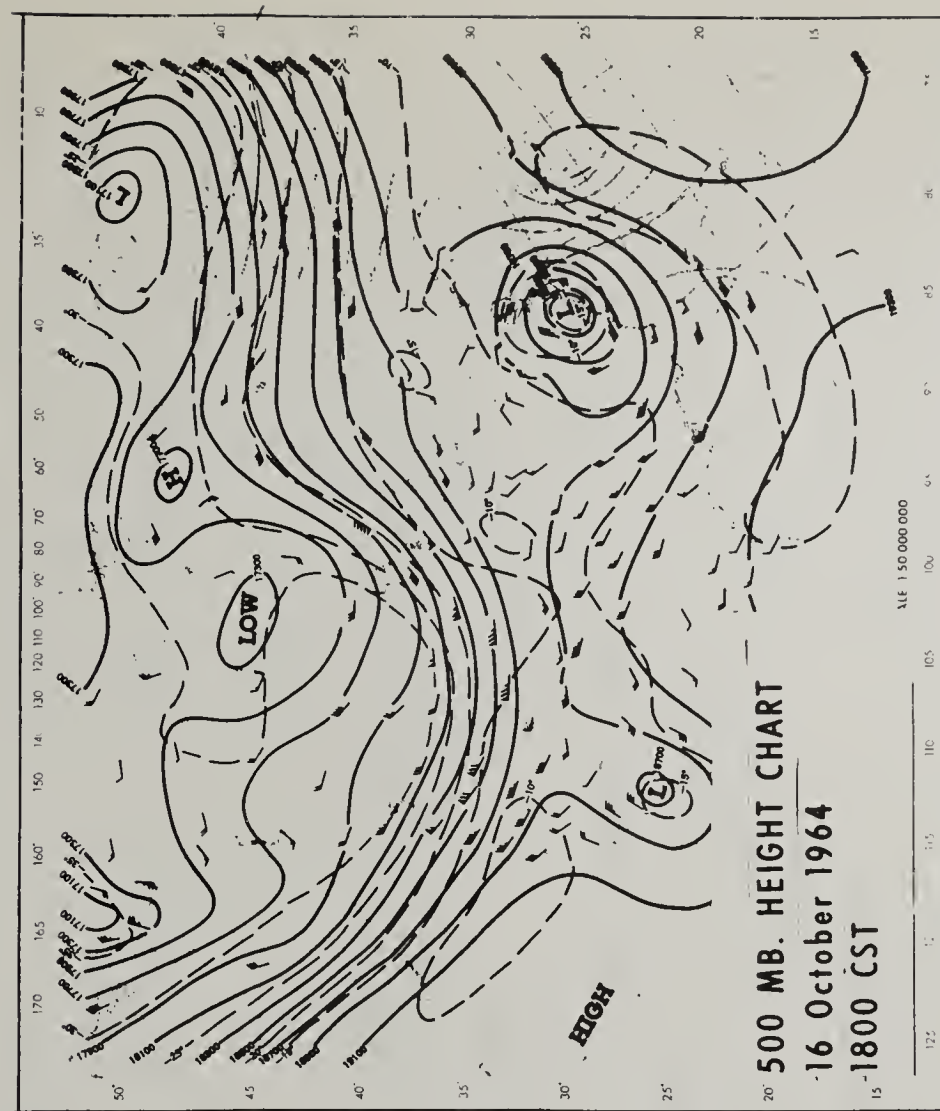
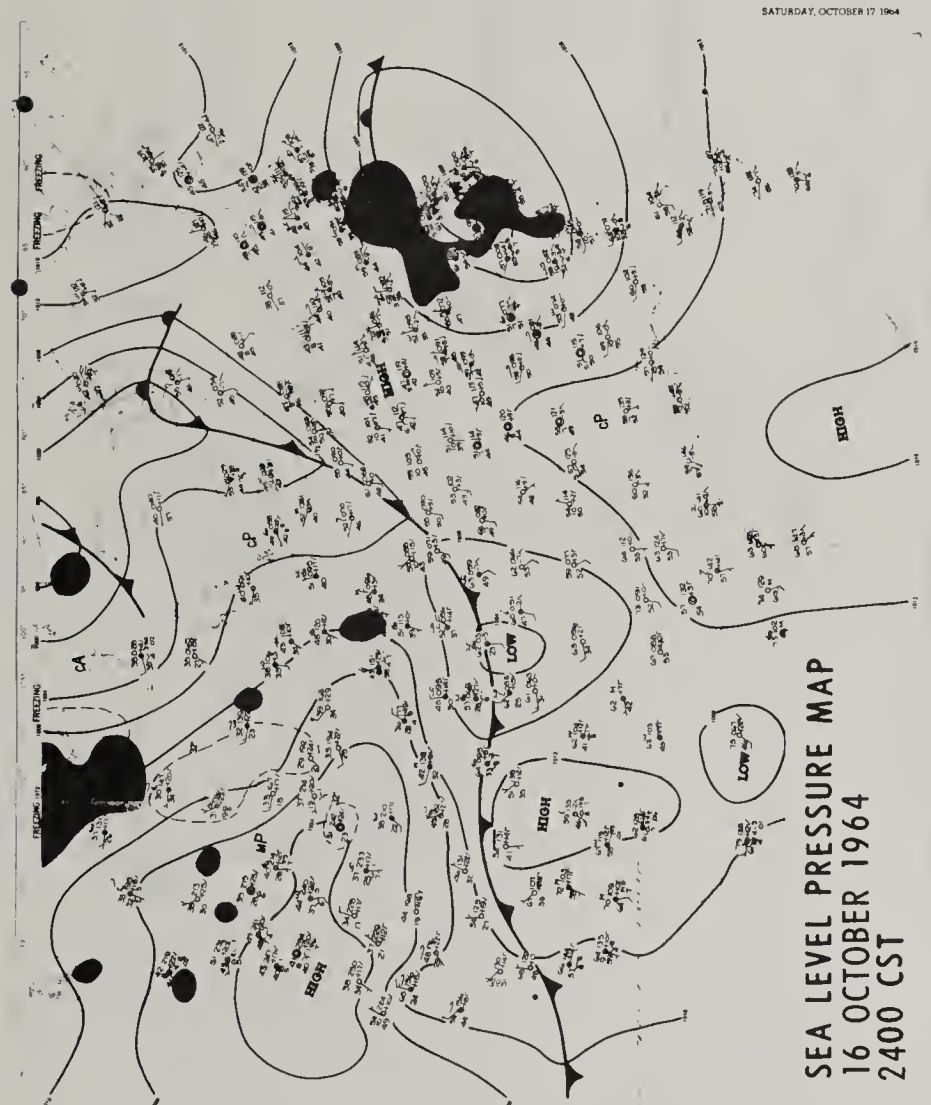


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Thirty-One

17 October 1964
Sampling Arcs: 1,2/6,3,7

Dissemination Site: Forest Park
Dissemination from 1315 to 1415 CST

Dissemination: 7357.7 gm
Lot Size No. 1339-2, 1339-3^b

Disseminator Feed Voltage Readings

13.0 v (entire dissemination)

Sampling Data

Sequential Surface Dosages

Total Surface Dosages

Meteorological Data

Tetroom
Pilot Balloons
CBI and PIA Rawinsondes
Free Radiosonde
WBAS, Lambert Field

Outlying Station Winds
KMOX Tower Winds (except middle level)
Vertical Temperature Gradients on KMOX Tower

Commentary

Coverage of the tracer cloud by the sampling arcs was inadequate; few useful results were obtained. One sampler contained contamination dosage.

Synoptic Situation

Light south southeasterly to south southwesterly winds and cloudy skies were associated with an advancing cold front which was situated over northwestern Missouri at 1200 CST.

b 7310.7 gm of 1339-2 and 47.0 gm of 1339-3.

^b 7310.7 gm of 1339-2 and 47.0 gm of 1339-3.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

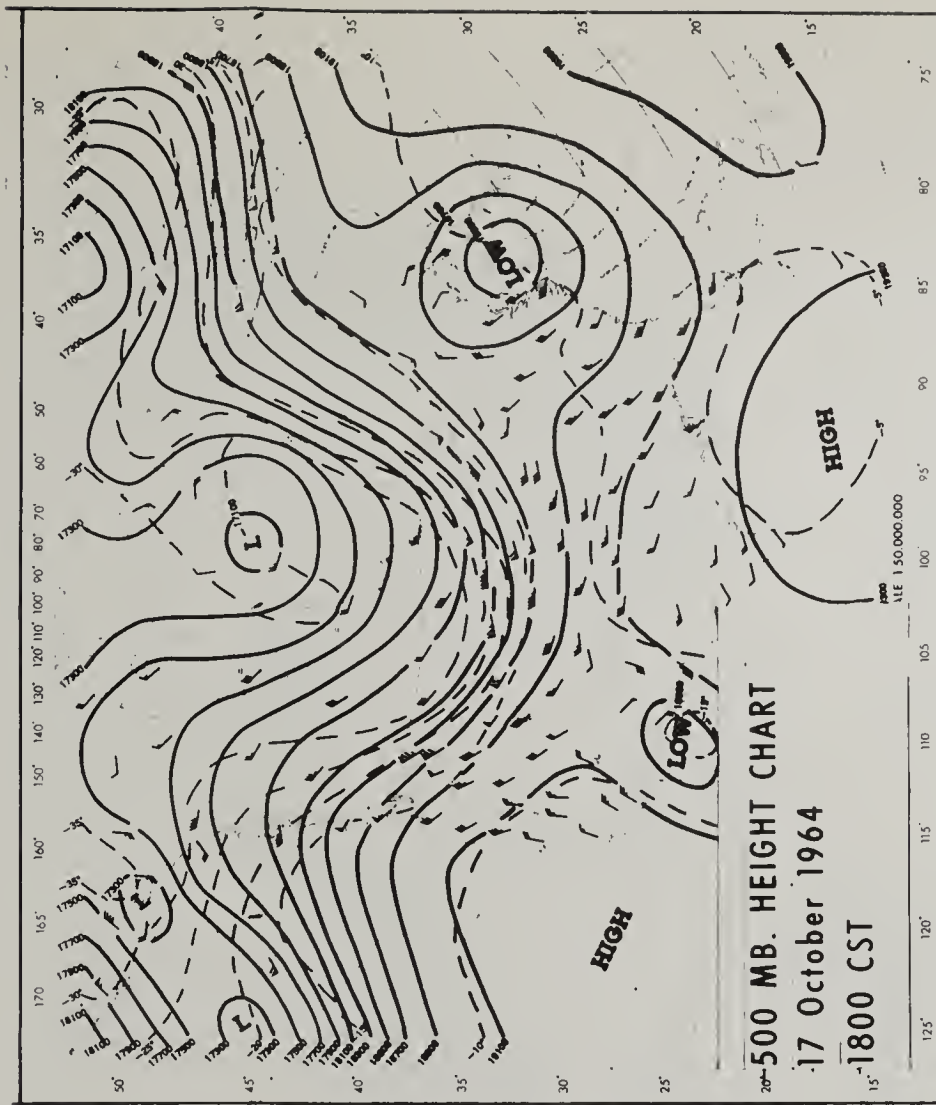
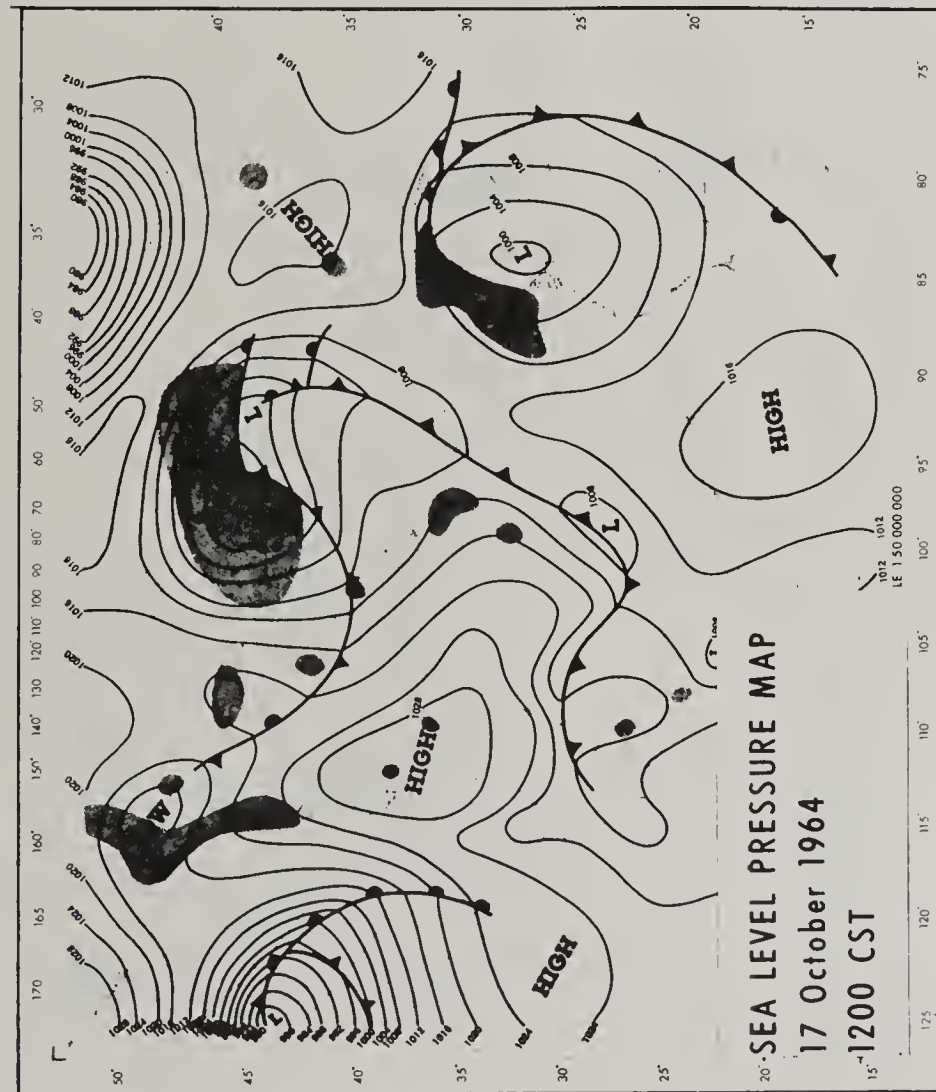


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Thirty-Two			
19 October 1964 Sampling Arcs: 1, 2, 3	Dissemination Site: Forest Park Dissemination from 1945 to 2045 CST	Dissemination: 3724.0 gm Lot Size No. 1339-3	
<u>Disseminator Feed Voltage Readings</u>			
6.5 v (entire dissemination)			
<u>Sampling Data</u>			
Total Surface Dosages	Sequential Surface Dosages	Dosages in the Vertical	
<u>Meteorological Data</u>			
Tetroom	WBAS, Lambert Field		
Pilot Balloons	Outlying Station Winds		
CBI and PIA Rawinsondes	KMOX Tower Winds		
Tethered Radiosonde	Vertical Temperature Gradients on KMOX Tower		
Dissemination Site Winds			
None.			
<u>Commentary</u>			
Decreasing northwesterly winds, partly cloudy skies, and weak cold air advection prevailed during the course of the experiment.			
<u>Synoptic Situation</u>			

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

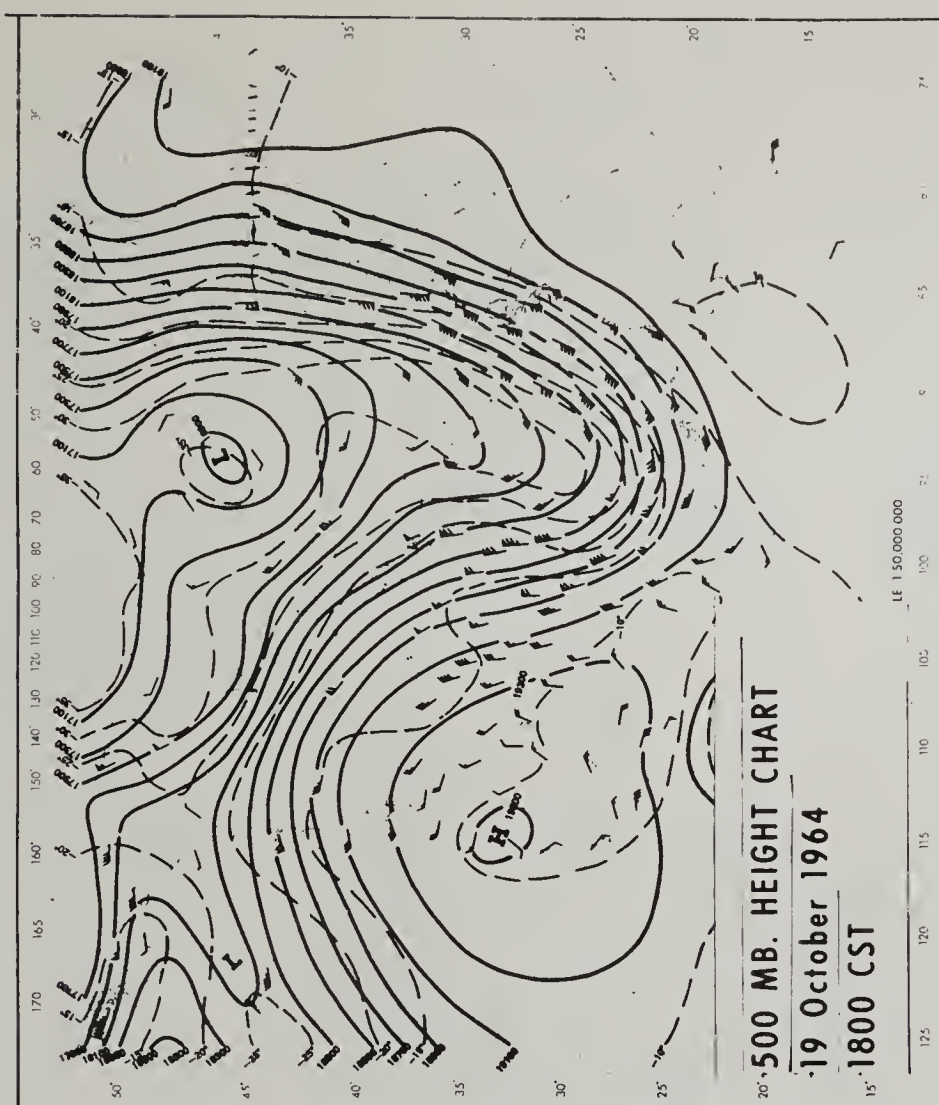
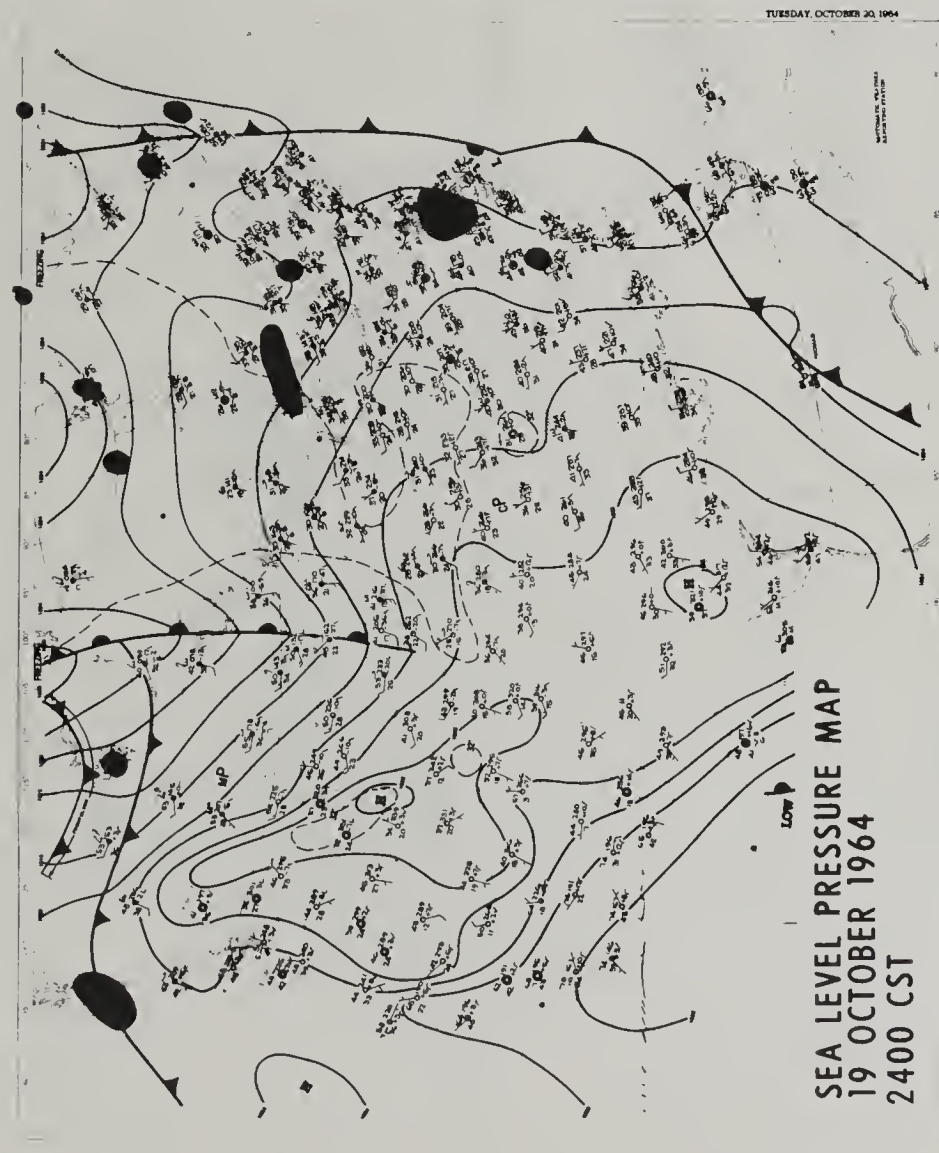


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Thirty-Three		
20 October 1964	Dissemination Site: Forest Park	Dissemination: 3143.1 gm
Sampling Arcs: 1, 2, 3	Dissemination from 1915 to 2015 CST	Lot Size No. 1339-3
<u>Disseminator Feed Voltage Readings</u>		
5.7 v (entire dissemination)		
<u>Sampling Data</u>		
Total Surface Dosages	Sequential Surface Dosages	
<u>Meteorological Data</u>		
Tetroom	WBAS, Lambert Field	
Pilot Balloons	Outlying Station Winds	
CBI and PIA Rawinsondes	KMOX Tower Winds	
Tethered Radiosonde	Vertical Temperature Gradients on KMOX Tower	
Dissemination Site Winds		
<u>Commentary</u>		
None		
<u>Synoptic Situation</u>		
Clear skies, warm air advection, and moderate southwesterly winds occurred in advance of a rapidly moving cold front.		

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

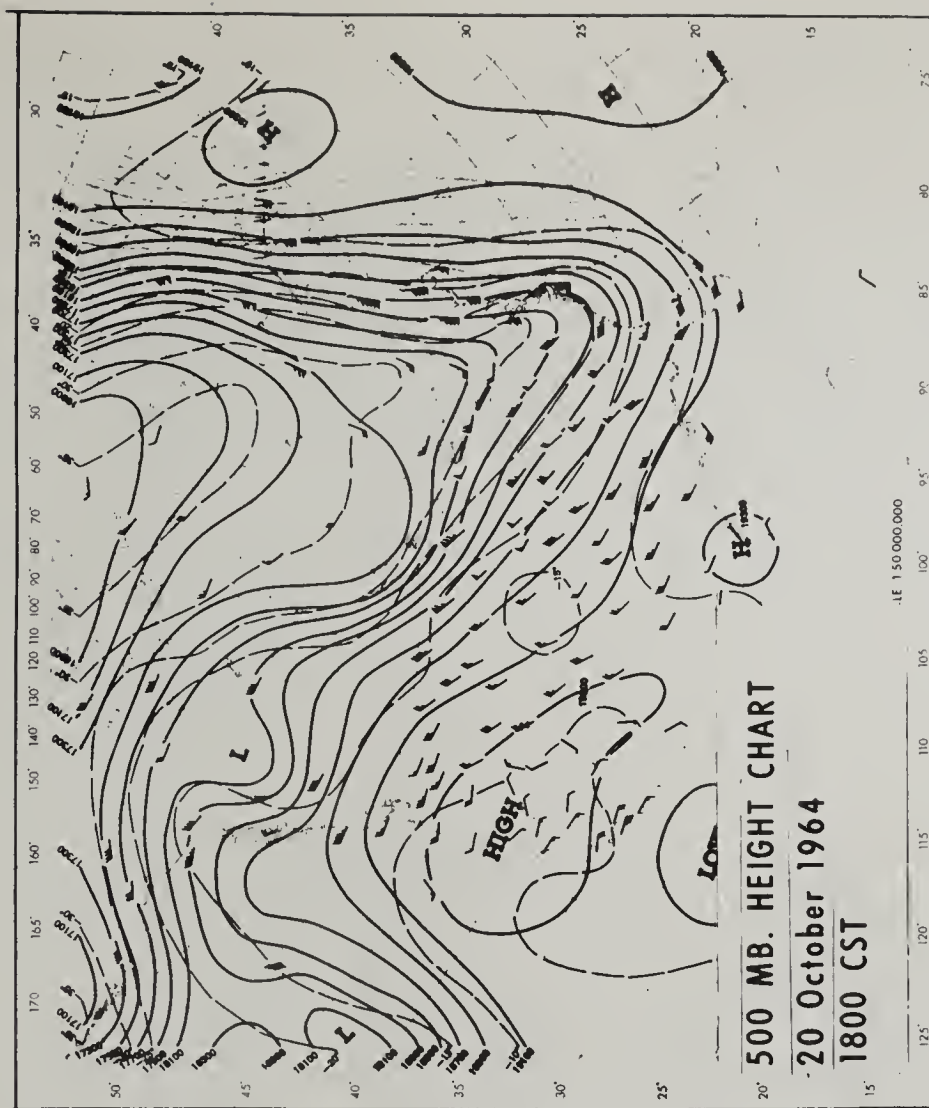
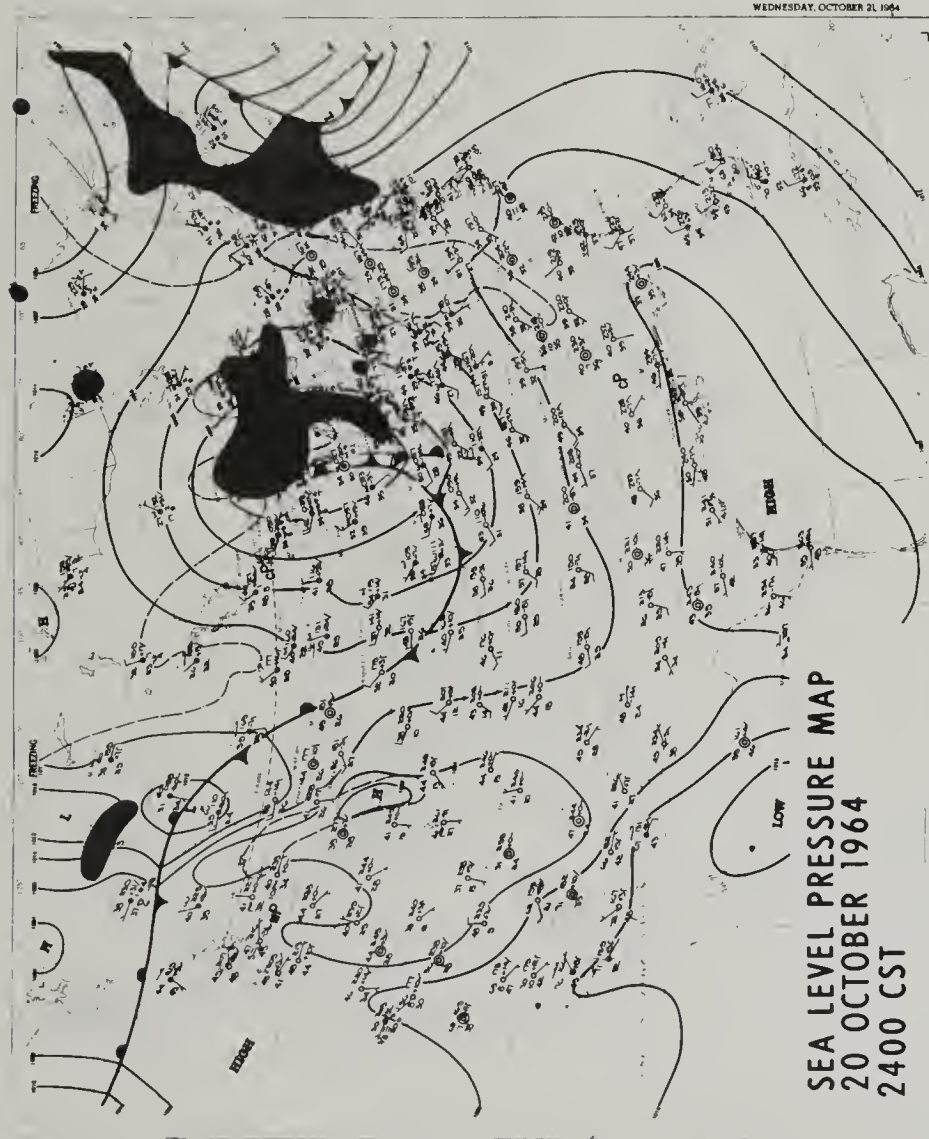


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Thirty-Four		
21 October 1964	Dissemination Site: Forest Park	Dissemination: 3661.2 gm
Sampling Arcs: 1, 2, 3	Dissemination from 1920 to 2020 CST	Lot Size No. 1339-3
Disseminator Feed Voltage Readings		
6.3 v (entire dissemination)		
Total Surface Dosages (incomplete)		
Sampling Data		
Meteorological Data		
Pilot Balloons	Outlying Station Winds	
CBI and PIA Rawinsondes	KMOX Tower Winds	
Dissemination Site Winds	Vertical Temperature Gradients on KMOX Tower	
WBAS, Lambert Field		
Commentary		
The tracer cloud almost completely missed the sampling arcs; few useful results were obtained.		
Synoptic Situation		
Clearing skies, cold air advection, and moderate north to northwesterly winds occurred following the passage of a cold front the previous evening.		

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

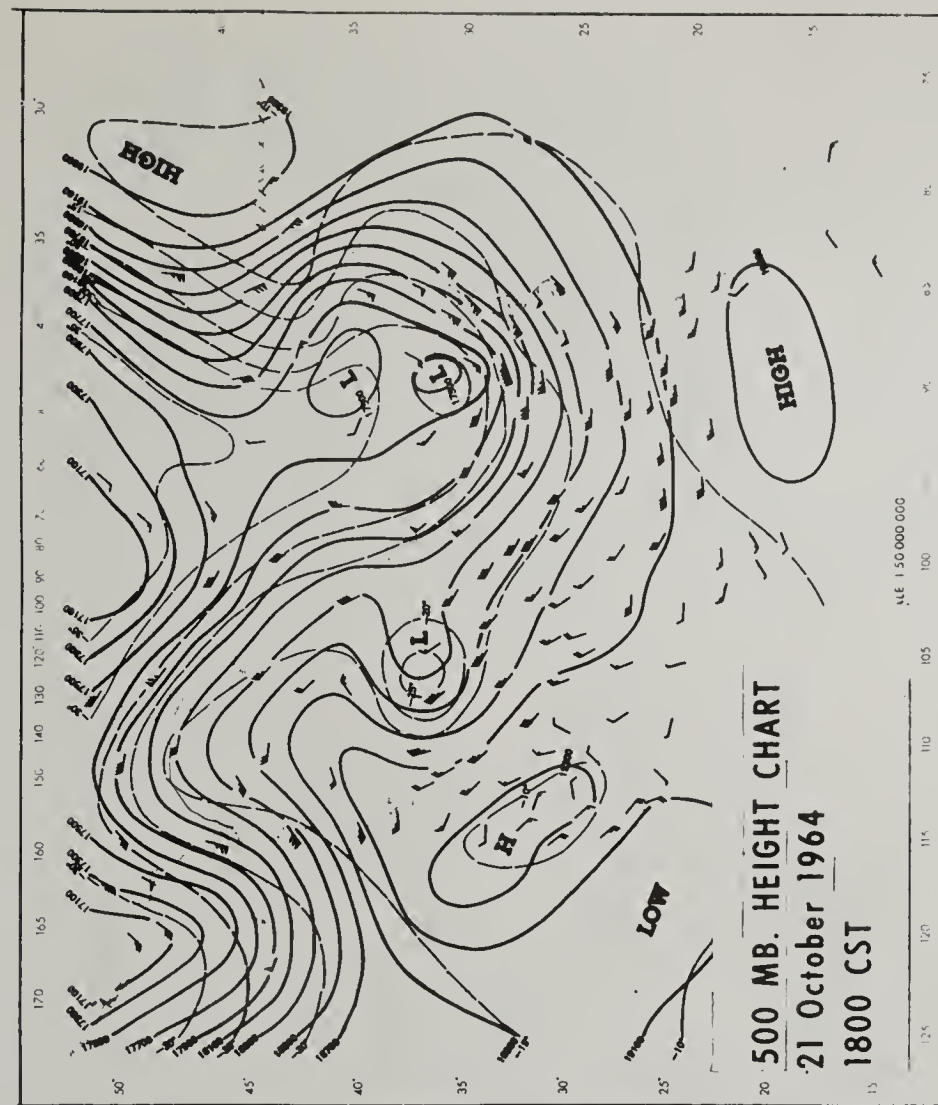
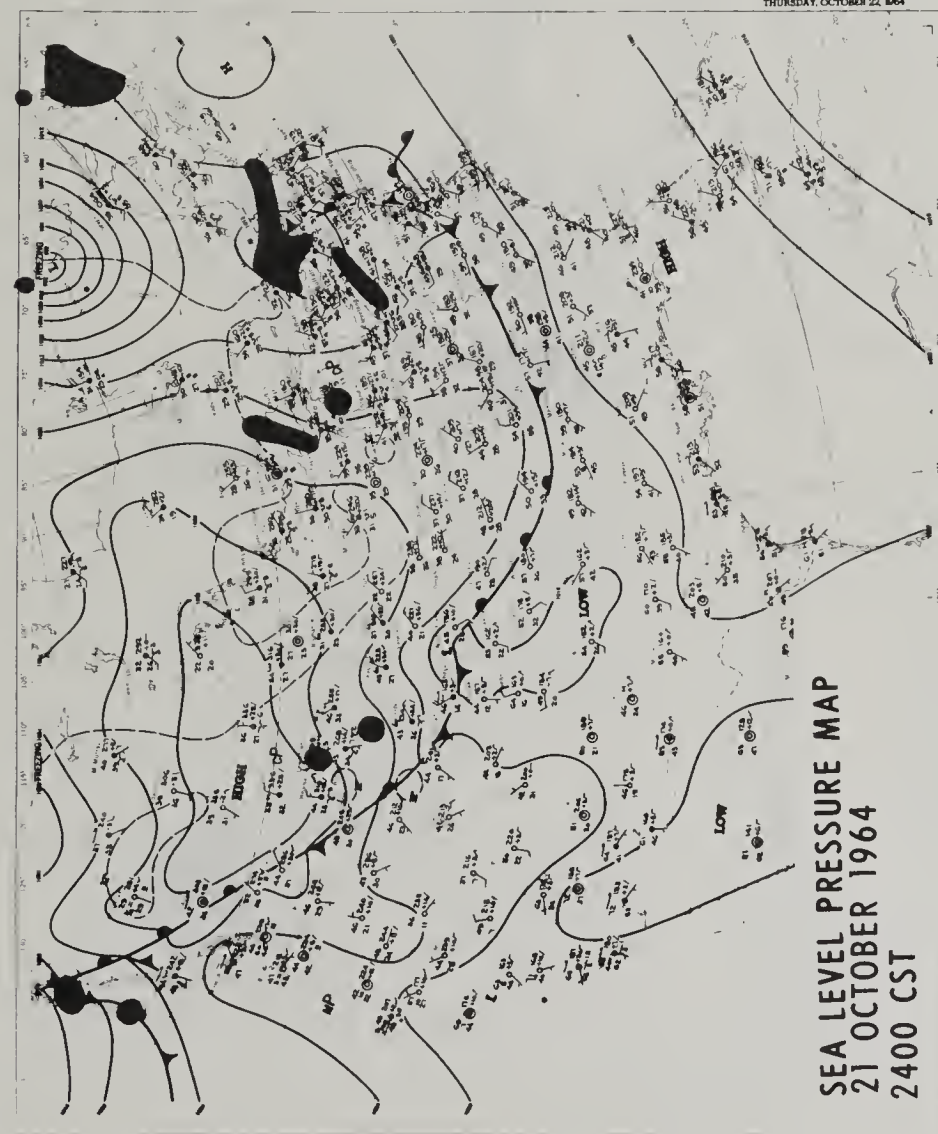


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Thirty-Five

6 March 1965

Dissemination Site: Forest Park

Dissemination: 7166.8 gm

Sampling Arcs: 1, 2, 3

Dissemination from 1230 to 1330 CST

Lot Size No. 1339-3

Disseminator Feed Voltage Readings

14.5 v (1230 CST); 13.5 v (1245 CST); 11.0 v (1300 CST); 9.0 v (1315, 1330 CST)

Sampling Data

Total Surface Dosages

Sequential Surface Dosages

Meteorological Data

Tetroon

WBAS, Lambert Field

Pilot Balloons

Outlying Station Winds

CBI and PIA Rawinsondes

KMOX Tower Winds

Free Radiosonde

Vertical Temperature Gradients on KMOX Tower

Dissemination Site Winds (Speed missing)

Commentary

The tracer cloud was not well defined by the sampling arcs.

Synoptic Situation

Strong, gusty northwesterly winds and cloudy skies existed behind an easterly moving storm center. Snow flurries occurred during the early morning hours.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

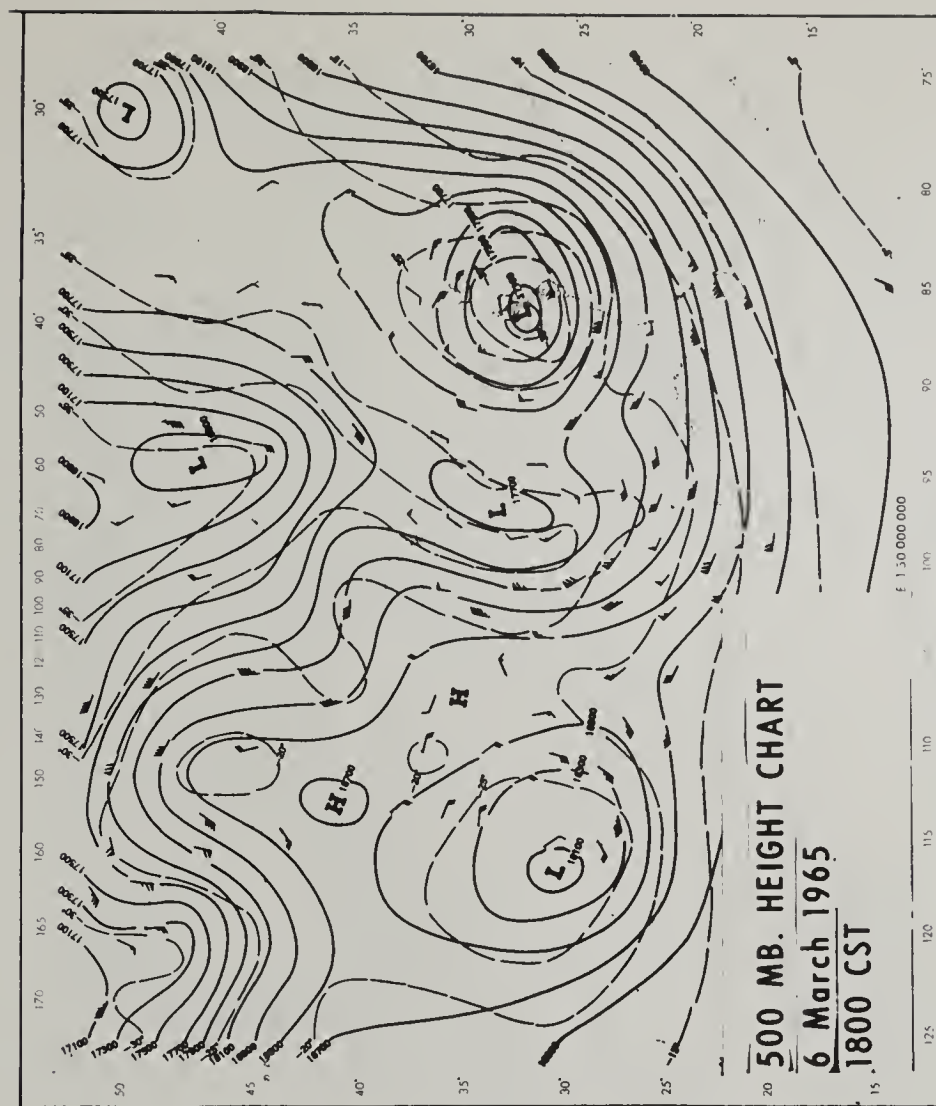
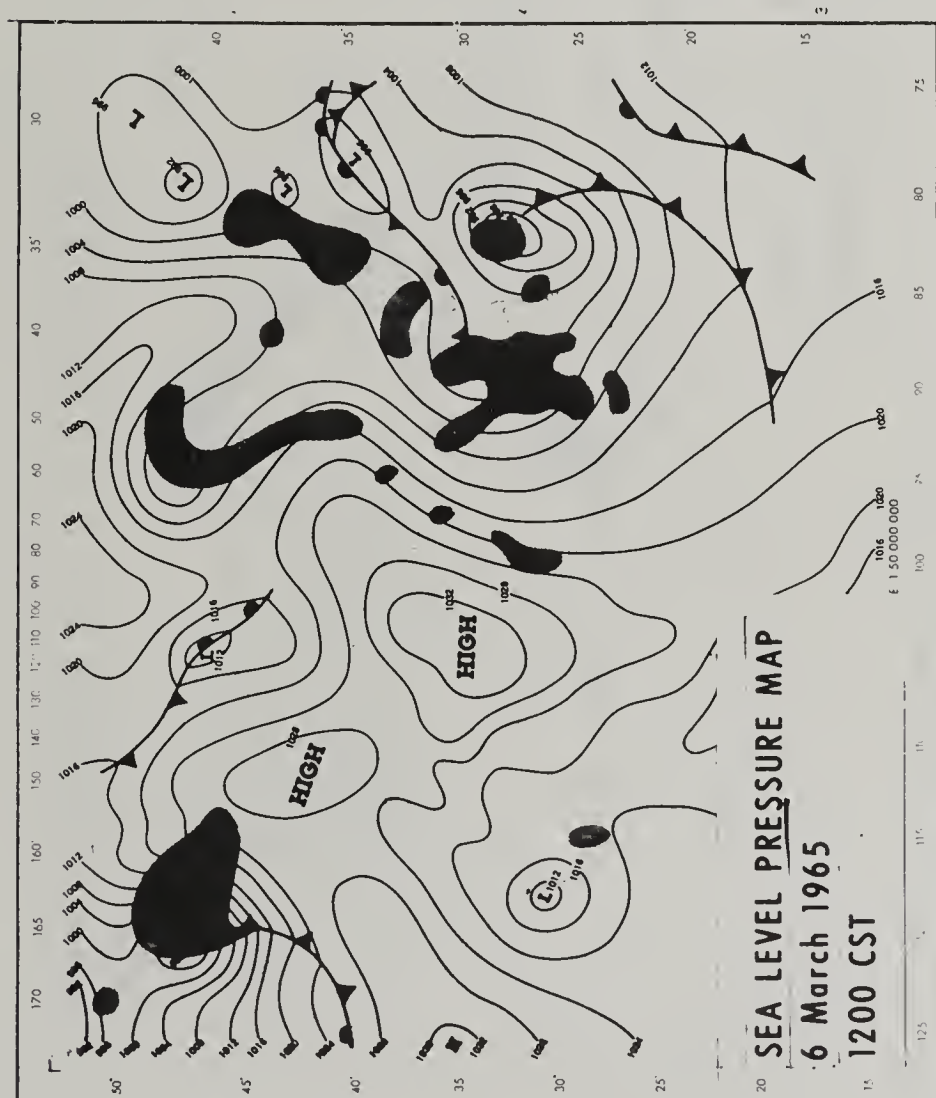


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Thirty-Six			
7 March 1965	Dissemination Site: Forest Park	Dissemination: 4986.6 gm	
Sampling Arcs: 1, 2, 3	Dissemination from 1230 to 1330 CST	Lot Size No. 1339-3	
<u>Disseminator Feed Voltage Readings</u>			
10.5 v (1230 CST); 8.0 v (1245, 1300, 1315 CST)			
<u>Sampling Data</u>			
Total Surface Dosages	Sequential Surface Dosages	Dosages in the Vertical	
<u>Meteorological Data</u>			
Tetroon	WBAS, Lambert Field		
Pilot Balloons	Outlying Station Winds		
CBI and PIA Rawinsondes	KMOX Tower Winds		
Free Radiosonde	Vertical Temperature Gradients on KMOX Tower		
Dissemination Site Winds (Speed missing)			
<u>Commentary</u>			
Snow fell during dissemination; the rate of fall was so slight that it is unlikely that any significant portion of the cloud was converged by the snow.			
<u>Synoptic Situation</u>			
Light to moderate northwesterly winds and snow flurries were associated with a deep vortex located northeast of St. Louis. About six inches of snow lay on the ground.			

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

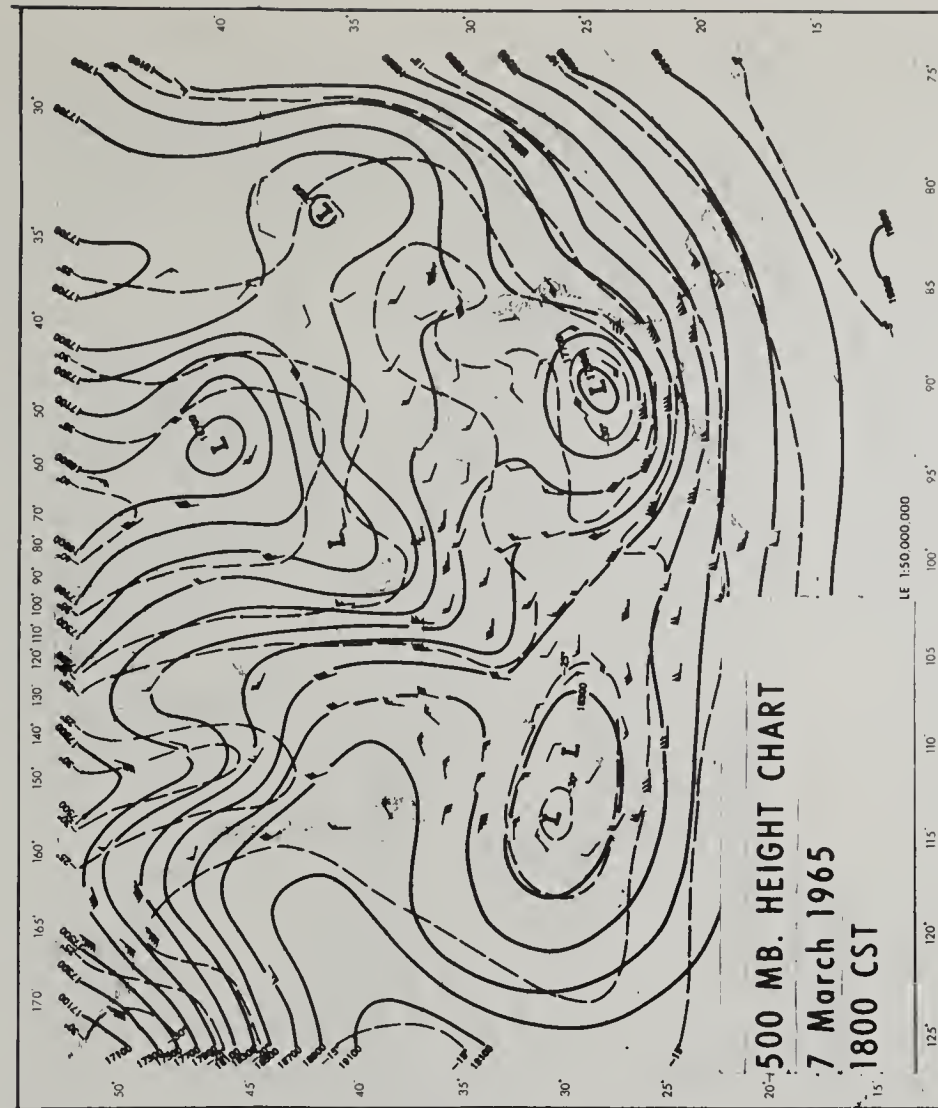
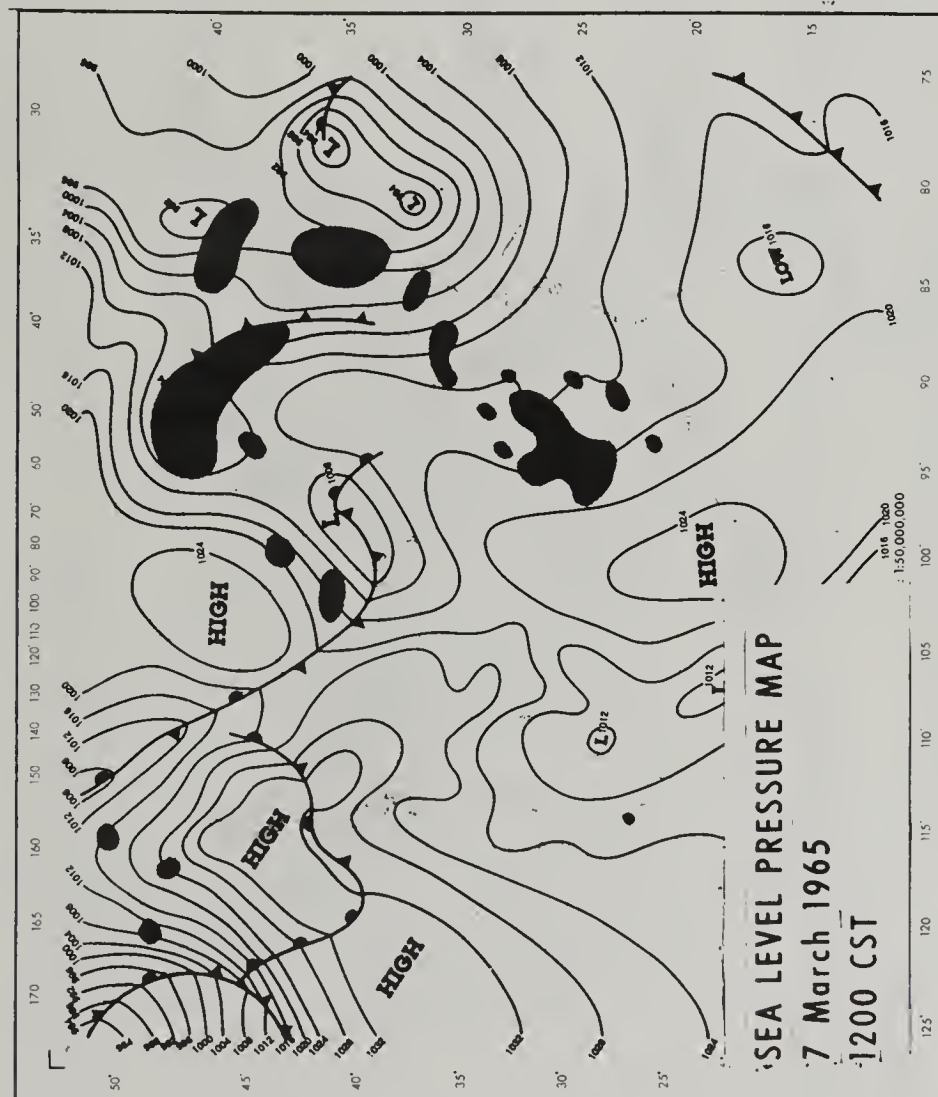


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Thirty-Seven		
8 March 1965	Dissemination Site: Forest Park	Dissemination: 5398.9 gm
Sampling Arcs: 1, 2, 3	Dissemination from 2030 to 2130 CST	Lot Size No. 1339-3
<u>Disseminator Feed Voltage Readings</u>		
9.0 v (entire dissemination)		
<u>Sampling Data</u>		
Total Surface Dosages	Sequential Surface Dosages	
<u>Meteorological Data</u>		
Pilot Balloons	WBAS, Lambert Field	
CBI and PIA Rawinsondes	Outlying Station Winds	
Free Radiosonde	KMOX Tower Winds	
Dissemination Site Winds	Vertical Temperature Gradients on KMOX Tower	
<u>Commentary</u>		
The left edge of the tracer cloud missed the sampling arcs.		
<u>Synoptic Situation</u>		
Strong northwesterly winds and overcast skies existed following the passage of a strong cold front.		

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

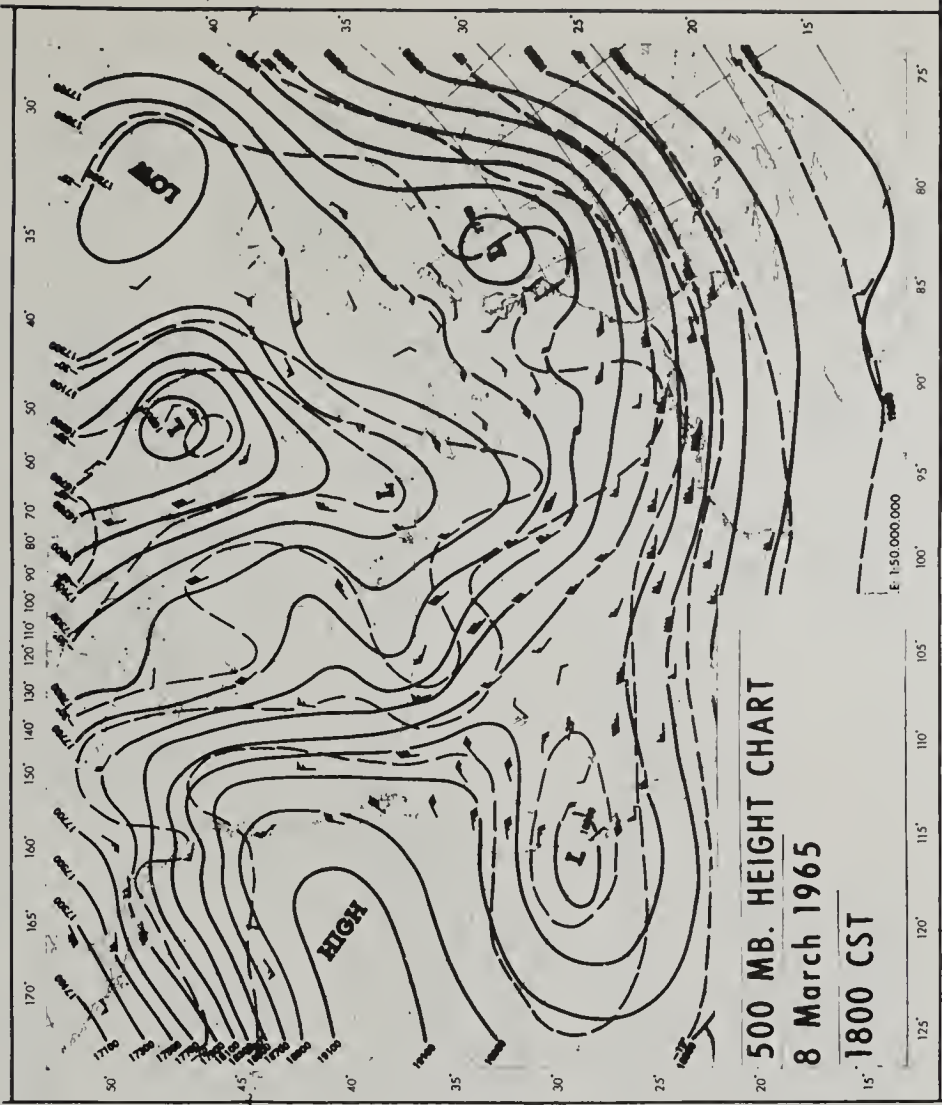
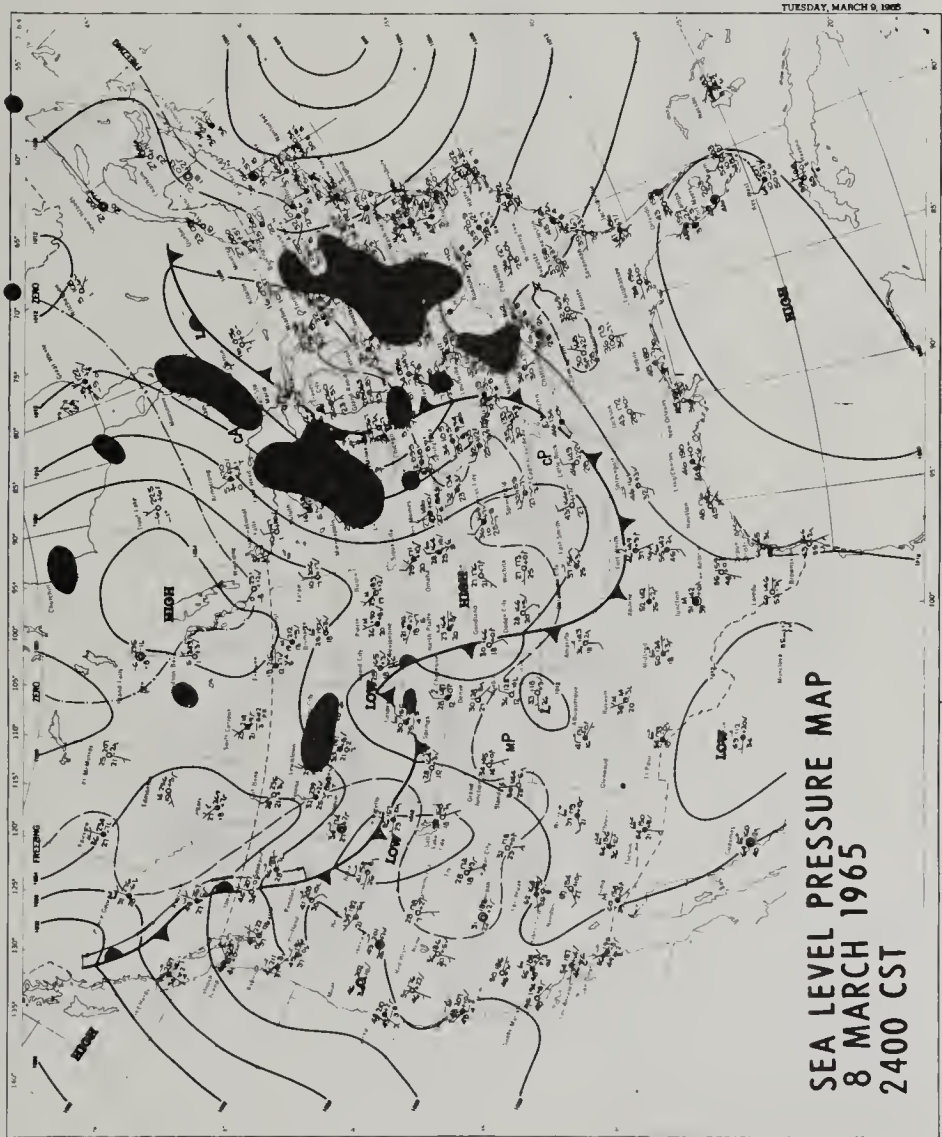


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Thirty-Eight	
11 March 1965	Dissemination Site: Forest Park
Sampling Arcs: 1, 2, 3	Dissemination from 2030 to 2130 CST
	Dissemination: 3479.3 gm
	Lot Size No. 1339-2, 1339-3 ^c
<u>Disseminator Feed Voltage Readings</u>	
6.5 v (2030 CST); 6.0 v (2045, 2100, 2115, 2130 CST)	
<u>Sampler Data</u>	
Total Surface Dosages	Sequential Surface Dosages
<u>Meteorological Data</u>	
Pilot Balloons	Outlying Station Winds
CBI and PLA Rawinsondes	KMOX Tower Winds
Dissemination Site Winds	Vertical Temperature Gradients on KMOX Tower
WBAS, Lambert Field	
<u>Commentary</u>	
The tracer cloud almost completely missed the sampling arcs; few useful data were obtained.	
<u>Synoptic Situation</u>	
Cloudy skies and moderate winds existed in advance of a weak cold front.	
<u>c2756.9 gm of 1339-2 and 722.4 gm of 1339-3.</u>	

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

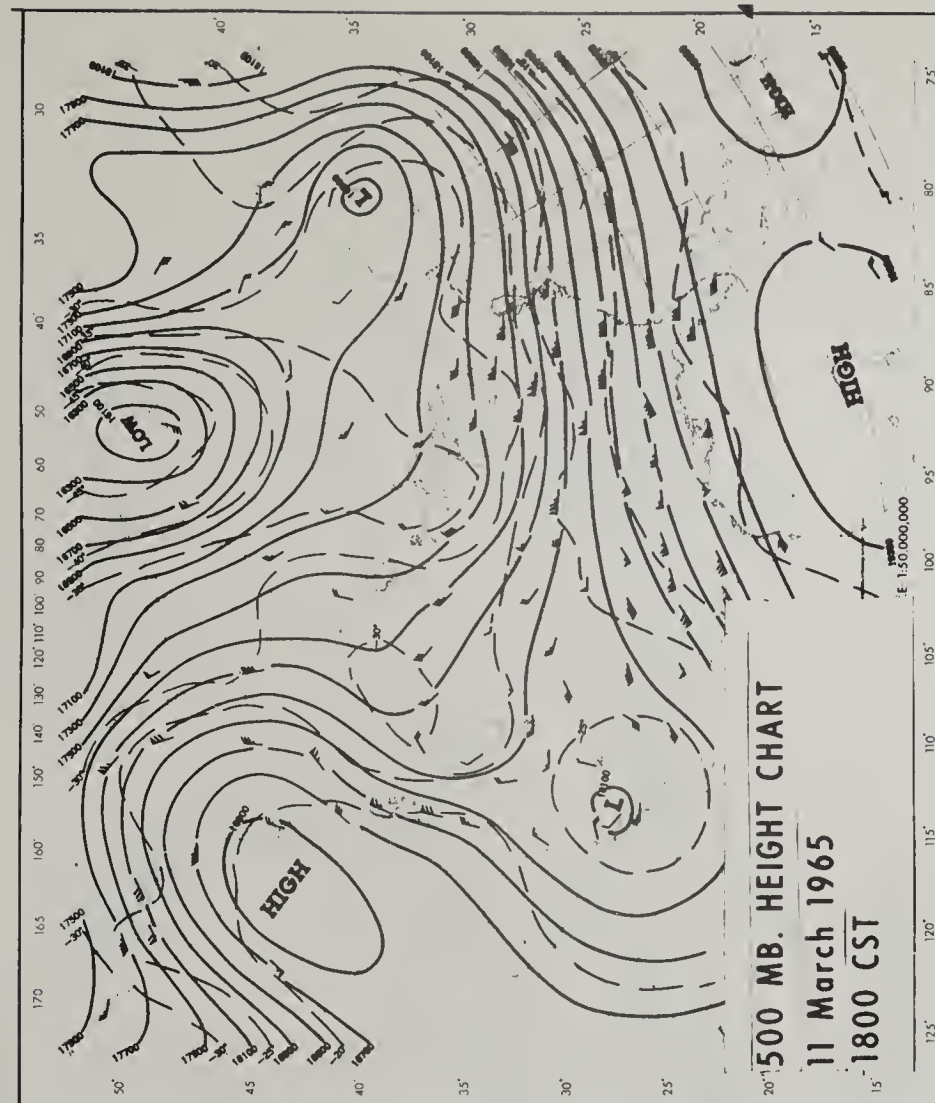
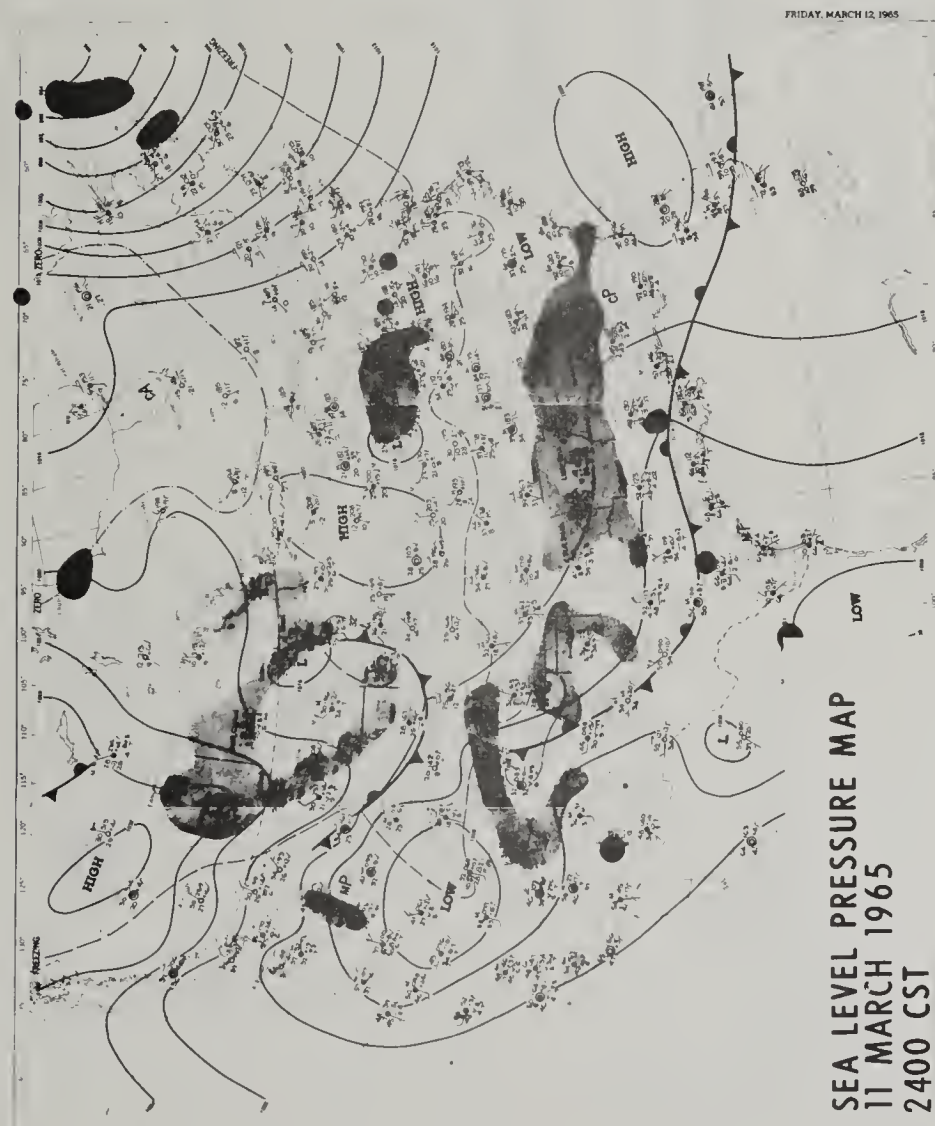


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Thirty-Nine			
13 March 1965	Dissemination Site: Forest Park	Dissemination: 8028.5 gm	
Sampling Arcs: 1, 2, 3	Dissemination from 1220 to 1320 CST	Lot Size No. 1339-2	
<u>Disseminator Feed Voltage Readings</u>			
14.5 v (1220, 1235, 1250 CST); 14.0 v (1305 CST)			
<u>Sampling Data</u>			
Total Surface Dosages	Sequential Surface Dosages	Dosages in the Vertical	
<u>Meteorological Data</u>			
Tetroon	WBAS, Lambert Field		
Pilot Balloons	Outlying Station Winds		
CBI and PIA Rawinsondes	KMOX Tower Winds		
Free Radiosonde	Vertical Temperature Gradients on KMOX Tower		
Dissemination Site Winds			
<u>Commentary</u>			
A portion of the tracer cloud missed the sampling arcs. The dosages of several samplers on the outer sampling arc were adjusted; these samplers appeared to have been turned off before the entire tracer cloud had reached them.			
<u>Synoptic Situtation</u>			
Clearing skies and light, variable winds occurred in response to a high pressure area centered over Missouri.			

Table 1 (continued).- EXPERIMENT SUMMARY SHEETS

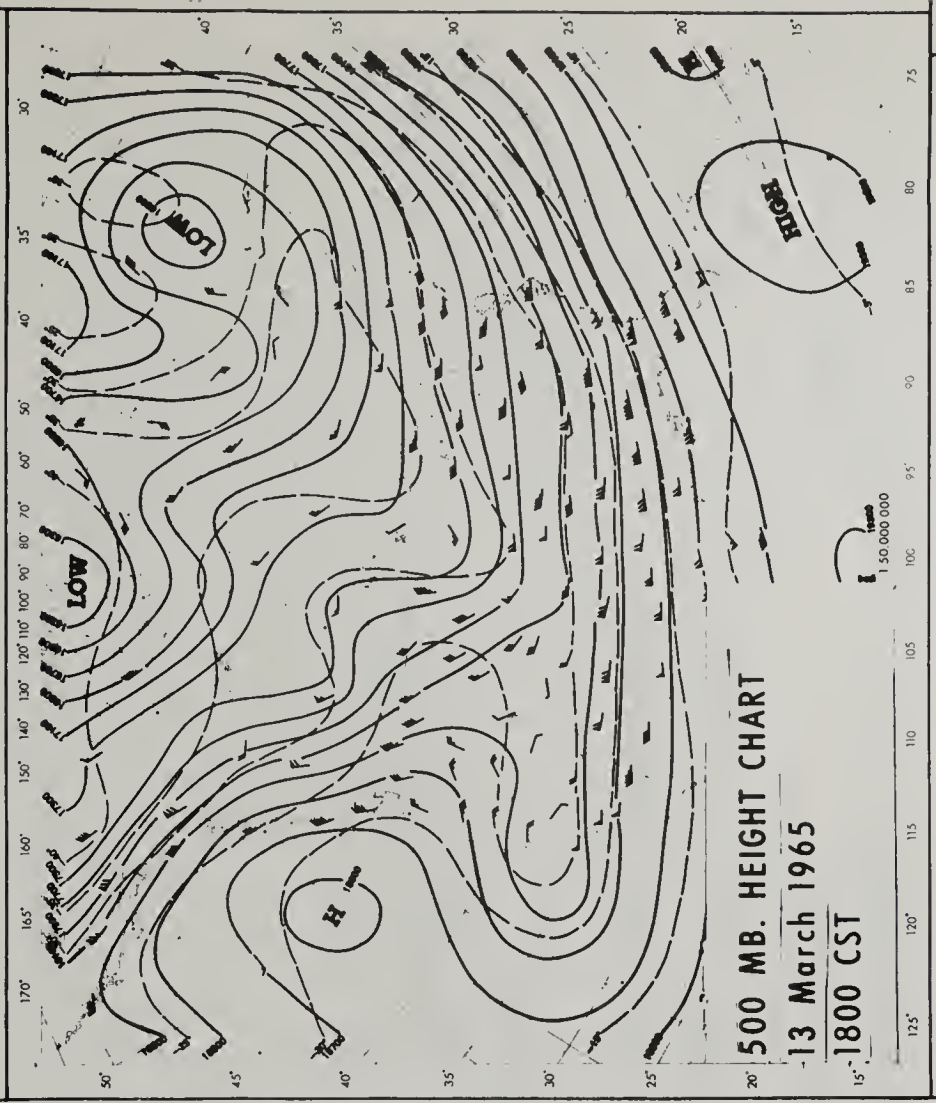
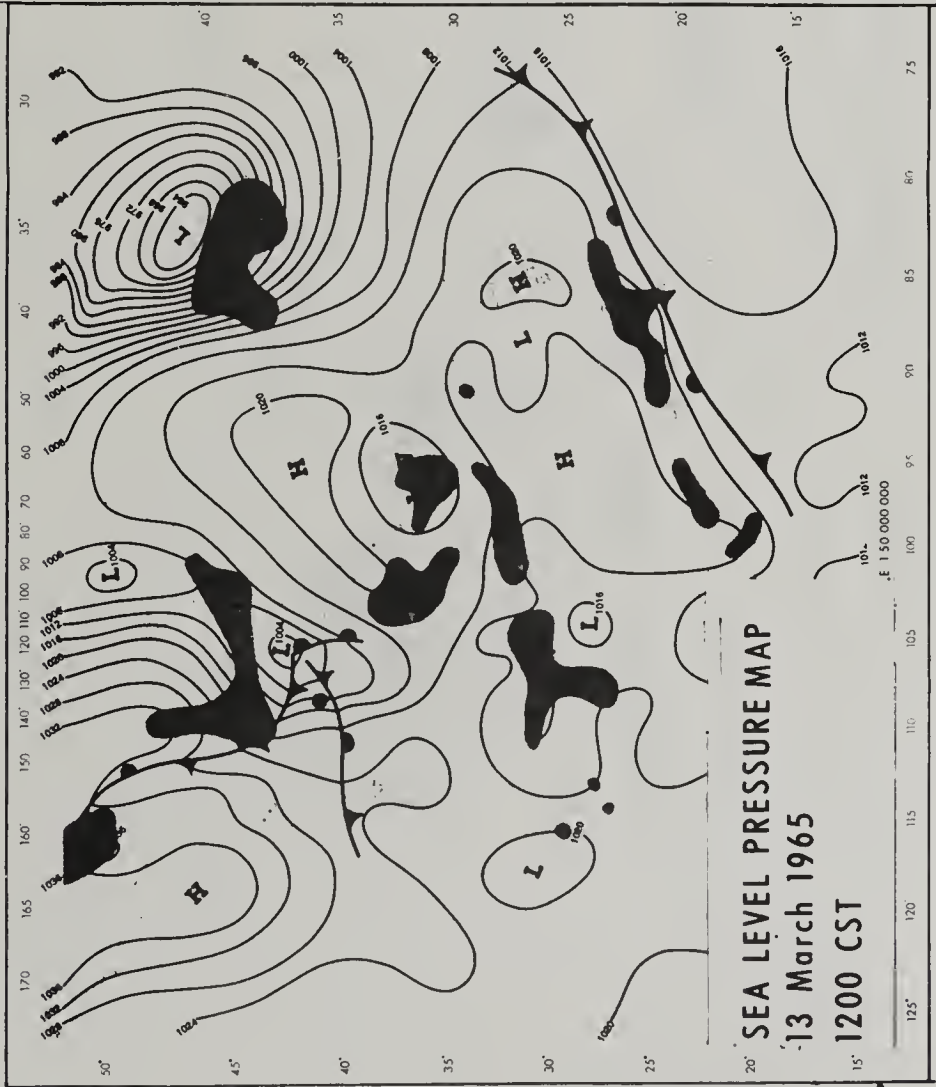


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Forty			
14 March 1965	Dissemination Site: Forest Park	Dissemination: 8426.7 gm	
Sampling Arcs: 1, 2, 3	Dissemination from 1100 to 1200 CST	Lot Size No. H-454	
<u>Disseminator Feed Voltage Readings</u>			
15.5 v (1100 CST); 14.5 v (1115 CST); 14.0 v (1130, 1145 CST)			
<u>Sampling Data</u>			
Total Surface Dosages	Sequential Surface Dosages		
<u>Meteorological Data</u>			
Tetroon	WBAS, Lambert Field		
Pilot Balloons	Outlying Station Winds		
CBI and PIA Rawinsondes	KMOX Tower Winds		
Free Radiosonde	Vertical Temperature Gradients on KMOX Tower		
Dissemination Site Winds			
<u>Commentary</u>			
None.			
<u>Synoptic Situation</u>			
Partly cloudy skies and strong, gusty northwesterly winds persisted following the passage of a cold front about 0600 CST.			

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

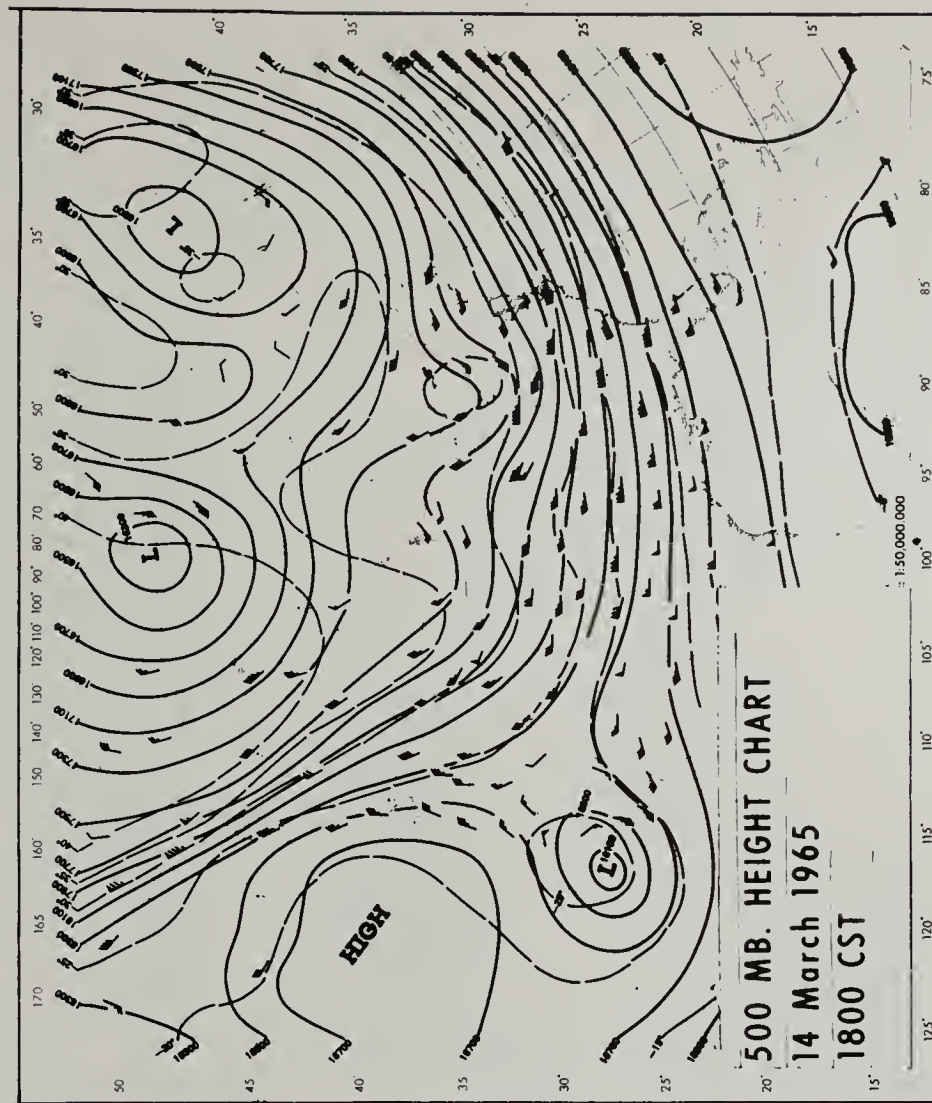
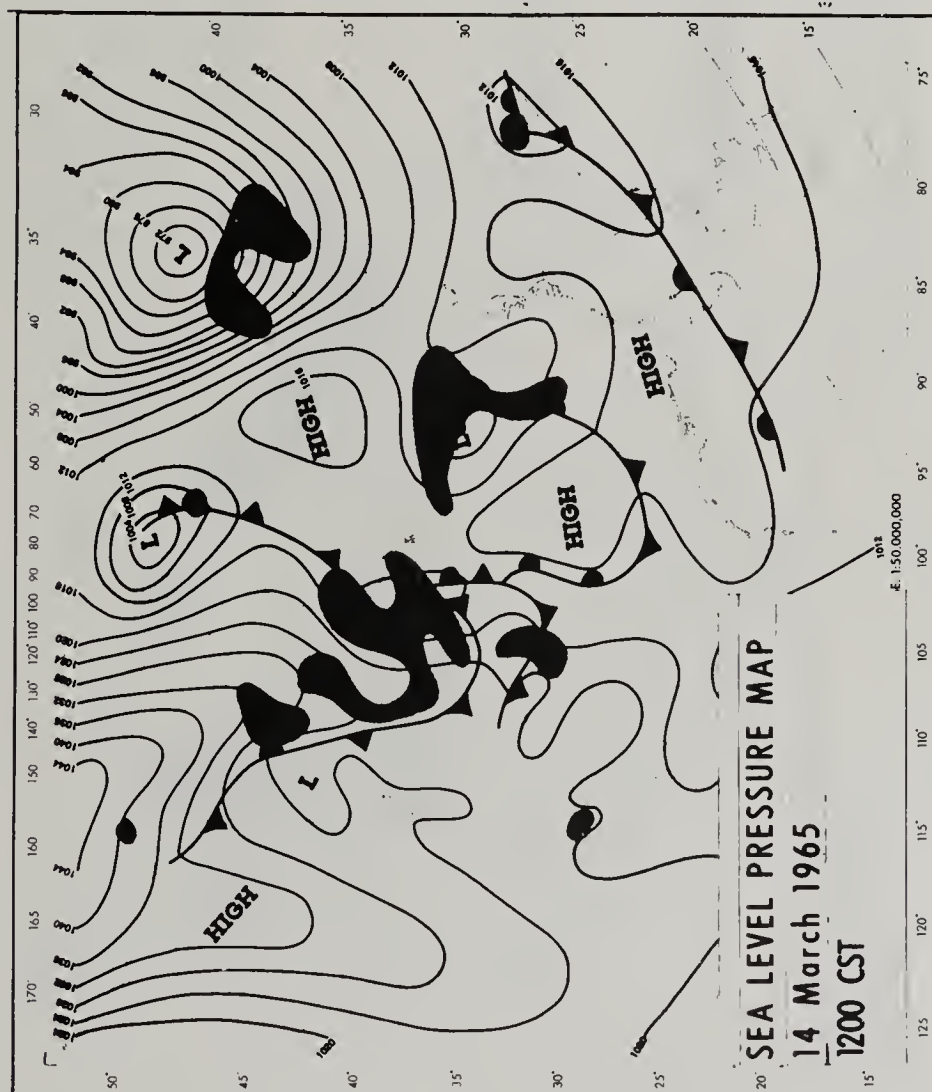


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Forty-One			
15 March 1965	Dissemination Site: Forest Park	Dissemination: 2374.2 gm	
Sampling Arcs: 1, 2, 3	Dissemination from 2050 to 2150 CST	Lot Size No. H-454	
<u>Disseminator Feed Voltage Readings</u>			
6.0 v (2050 CST); 4.5 v (2105 CST); 3.5 v (2120, 2135 CST)			
<u>Sampling Data</u>			
Total Surface Dosages		Sequential Surface Dosages	
<u>Meteorological Data</u>			
Tetroom	WBAS, Lambert Field		
Pilot Balloons	Outlying Station Winds		
CBI and PIA Rawinsondes	KMOX Tower Winds		
Dissemination Site Winds	Vertical Temperature Gradients on KMOX Tower		

Commentary

Dosages of several samplers on the two outer arcs were adjusted; the samplers appeared to have been turned off before the entire tracer cloud had reached them. The coverage of the tracer cloud by these two arcs is meager.

Synoptic Situation

Clearing skies and weak northwesterly winds were associated with a high pressure area centered over Eastern Tennessee.

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

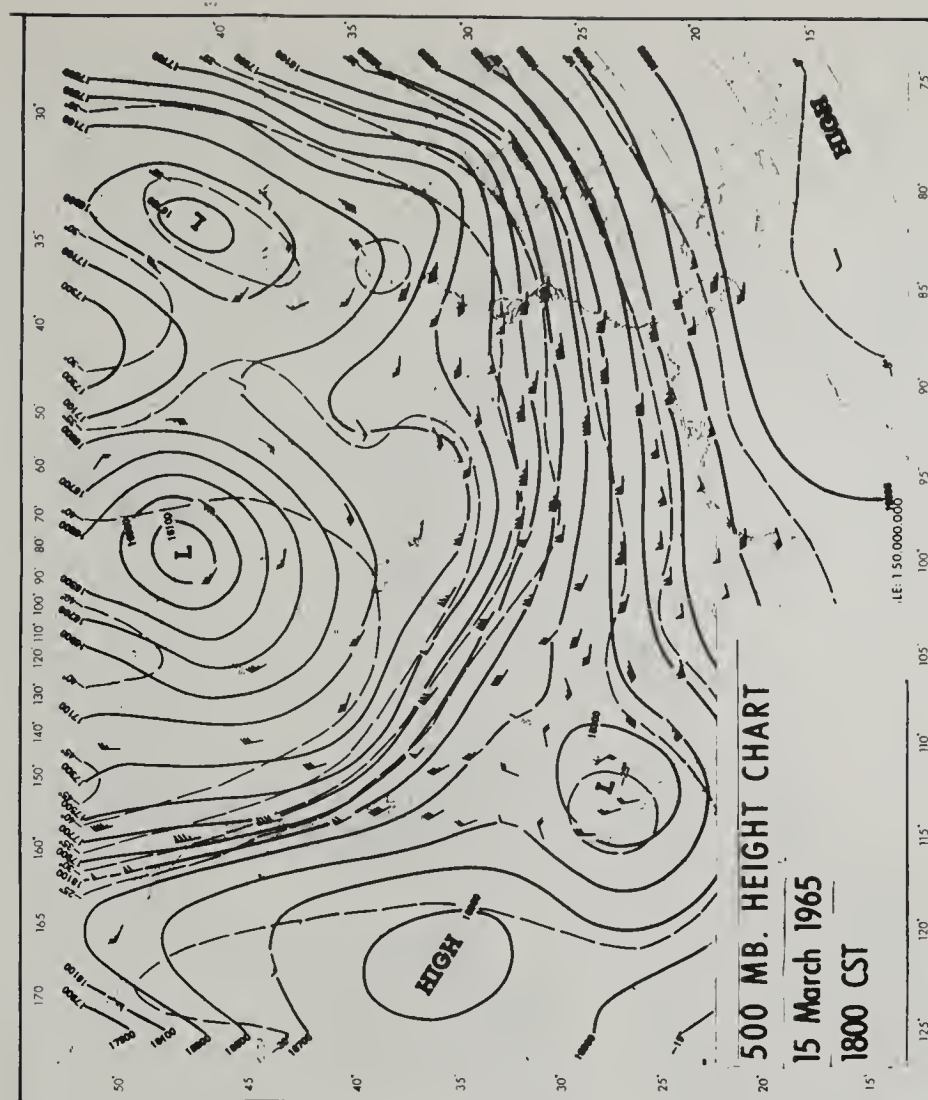
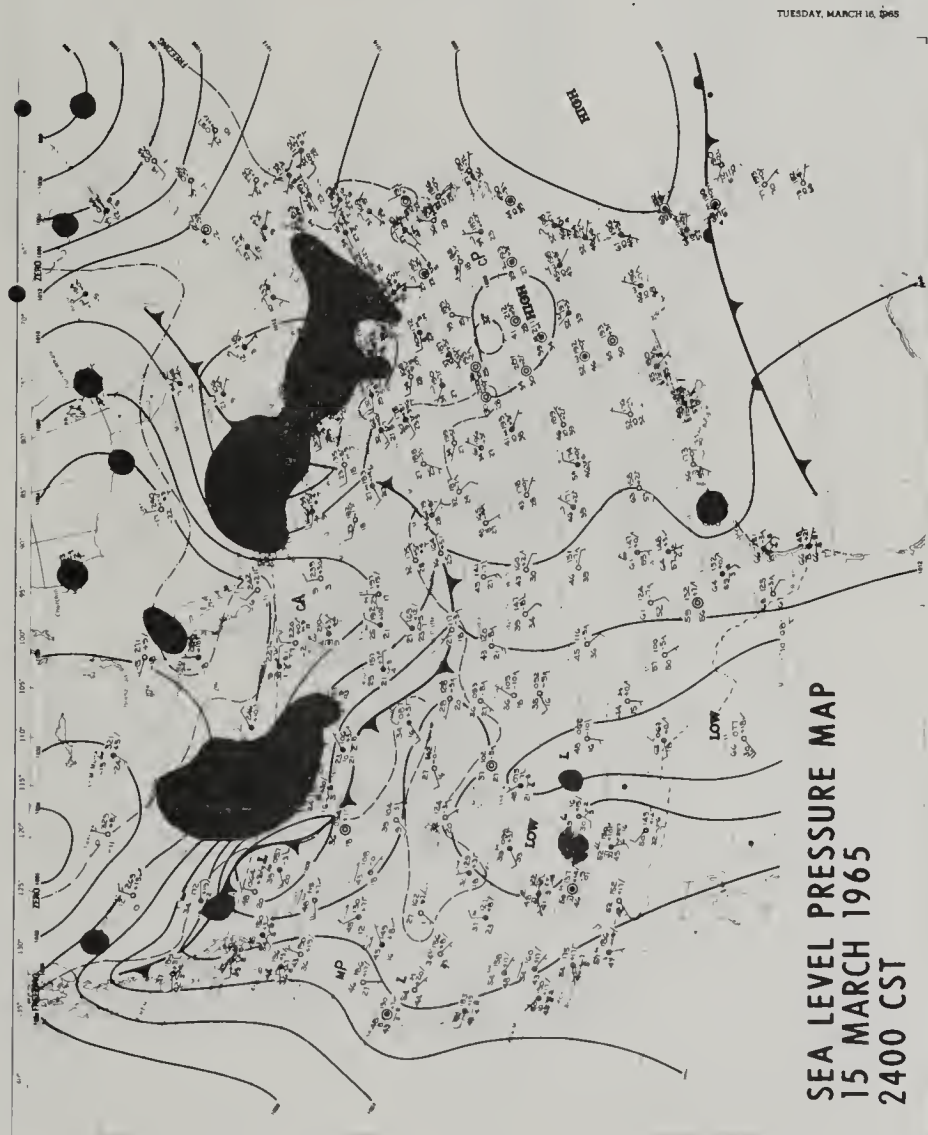


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Forty-Two			
16 March 1965	Dissemination Site: K. of C. Building	Dissemination: 3509.5 gm	
Sampling Arcs: 4, 5, 6	Dissemination from 2030 to 2130 CST	Lot Size No. H-454	
<u>Disseminator Feed Voltage Readings</u>			
8.5 v (2030 CST); 7.0 v (2045, 2100, 2115 CST)			
<u>Sampling Data</u>		Sequential Surface Dosages	
Total Surface Dosages			
<u>Meteorological Data</u>			
Tetroom	WBAS, Lambert Field		
Pilot Balloons	Outlying Station Winds		
CBI and PIA Rawinsondes	KMOX Tower Winds (except middle level)		
Dissemination Site Winds (Direction missing)	Vertical Temperature Gradients on KMOX Tower		
<u>Commentary</u>			
Two samplers contained contamination dosage. A few light rain sprinkles fell during the course of the experiment; significant dosage was not considered to have been washed out.			
<u>Synoptic Situation</u>			
Strong increasing southeasterly winds, cloudy skies, and light rain sprinkles occurred in advance of a deepening storm system over Kansas.			

Table 1 (continued). EXPERIMENT SUMMARY SHEETS

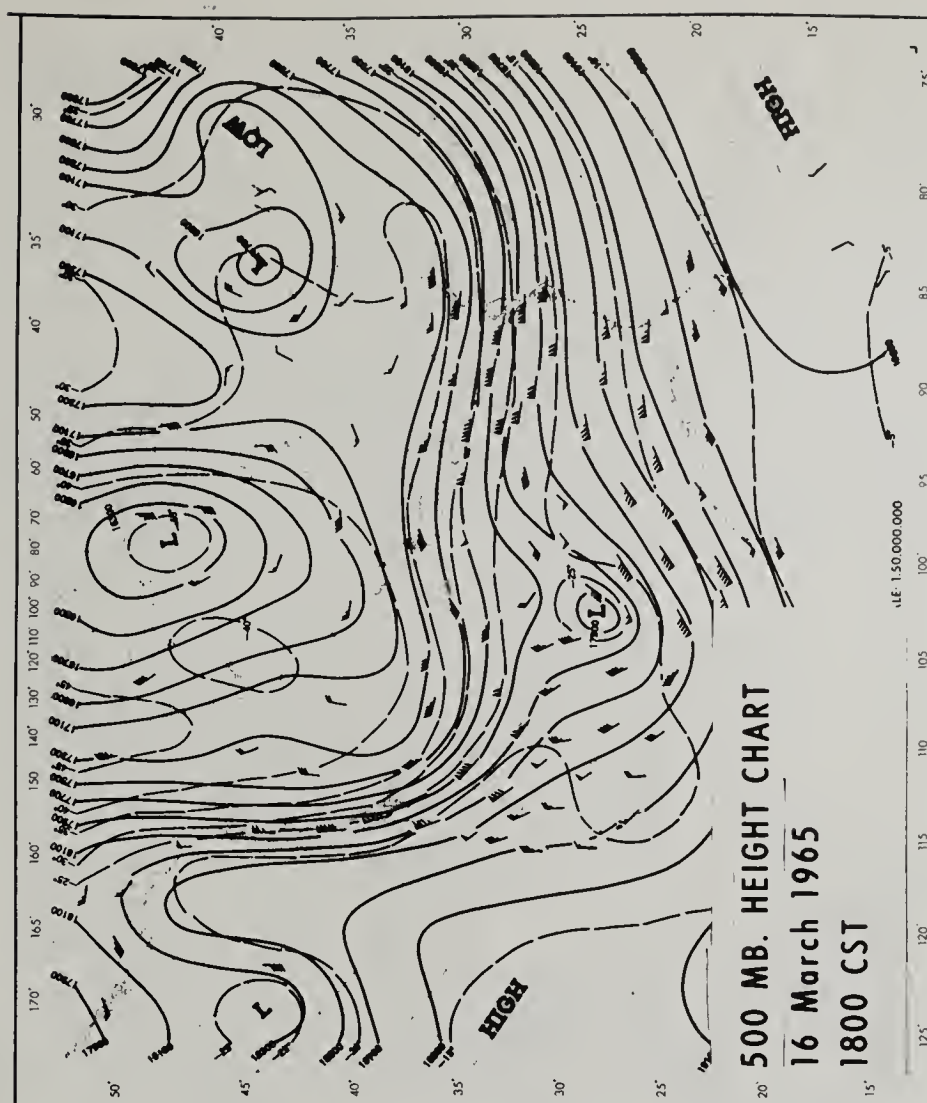
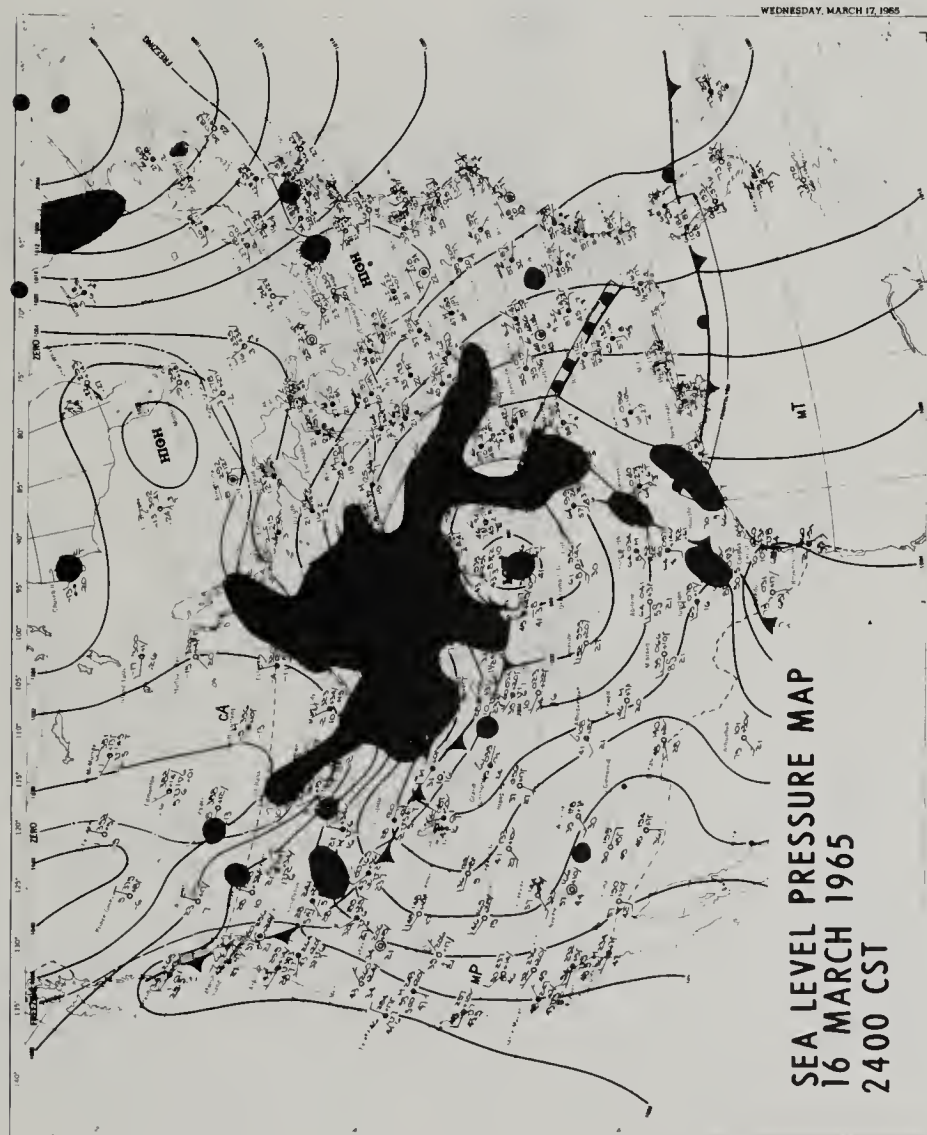
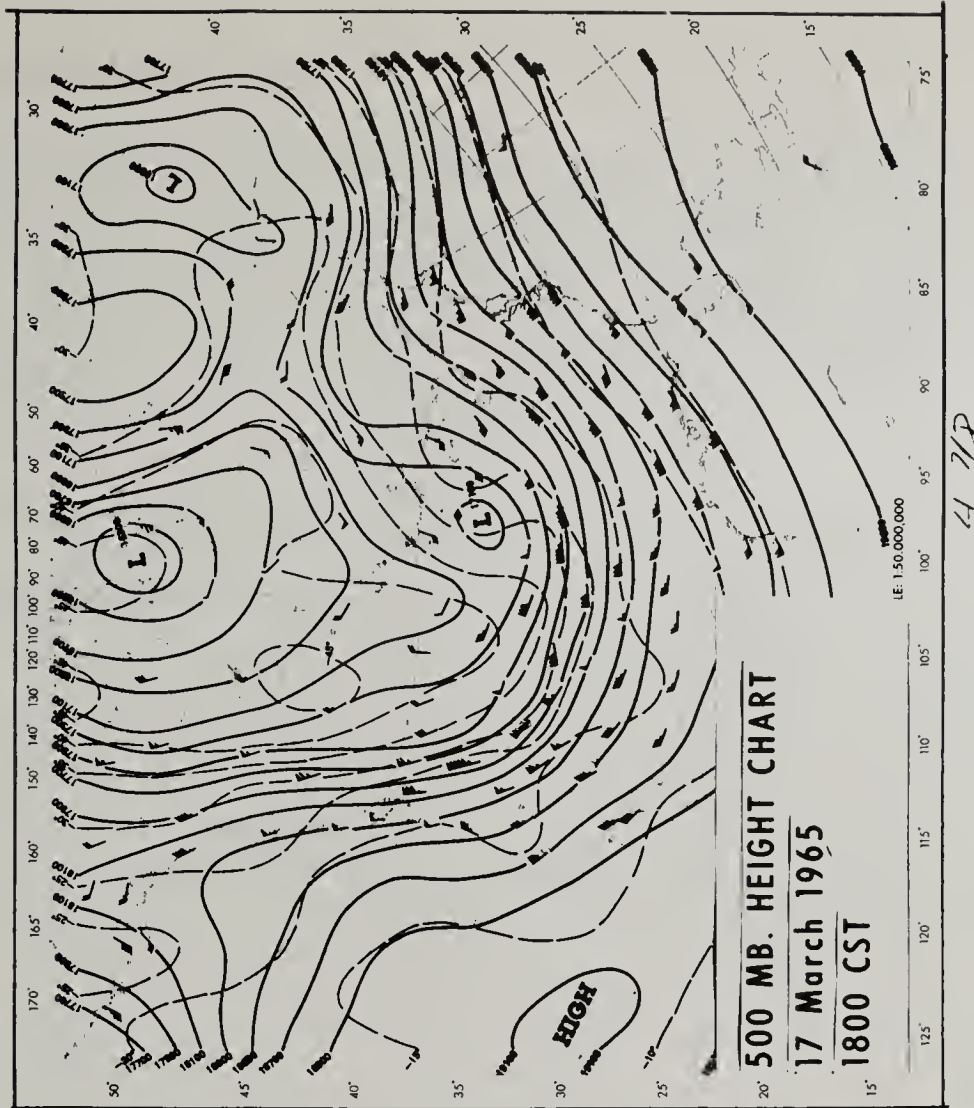
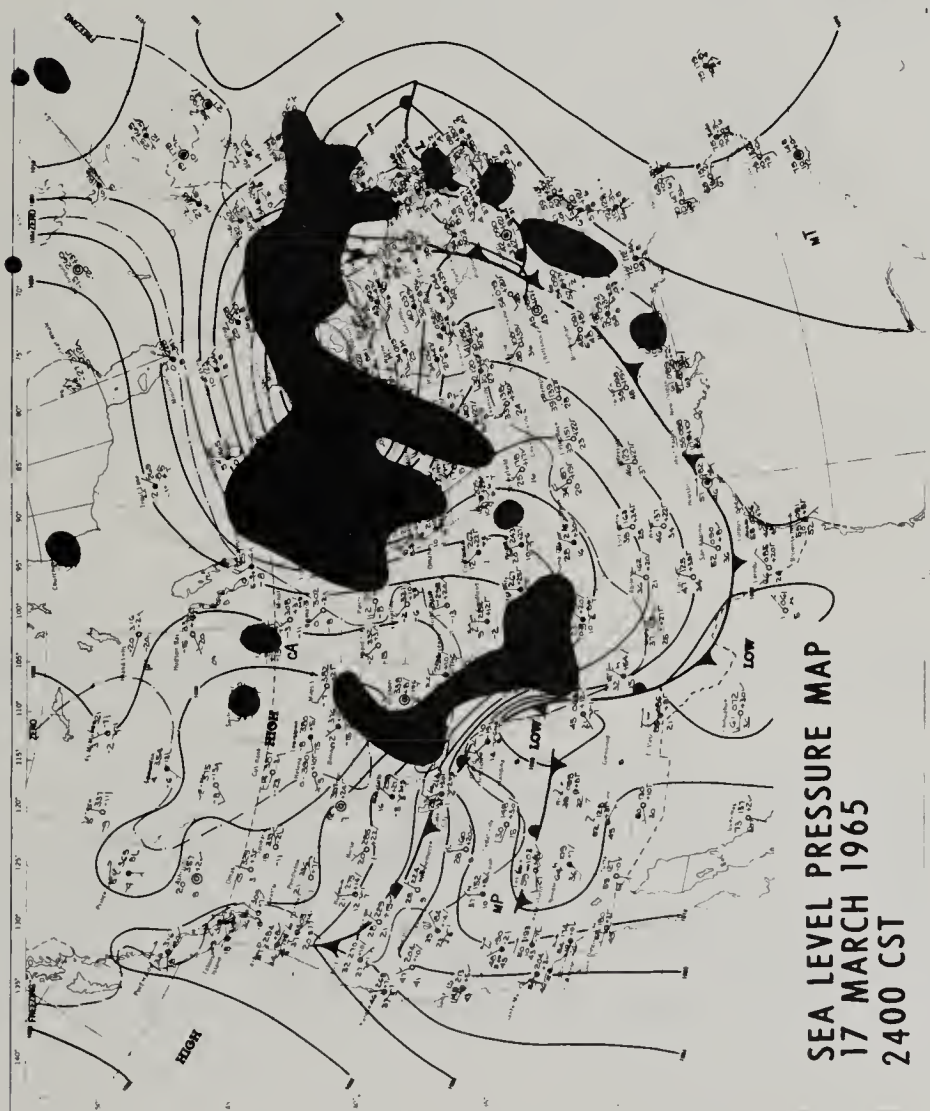


Table 1 (continued). EXPERIMENT SUMMARY SHEETS

Experiment Forty-Three		
17 March 1965	Dissemination Site: Forest Park	Dissemination: 6109.9 gm
Sampling Arcs: 1, 2, 3	Dissemination from 2000 to 2100 CST	Lot Size No. H-454
<u>Disseminator Feed Voltage Readings</u>		
12.0 v (2000 CST); 10.0 v (2015 CST); 8.5 v (2030, 2045 CST)		
<u>Sampling Data</u>		
Total Surface Dosages	Sequential Surface Dosages	
<u>Meteorological Data</u>		
Pilot Balloons	Outlying Station Winds	
CBI and PIA Rawinsondes	KMOX Tower Winds	
Dissemination Site Winds	Vertical Temperature Gradient on KMOX Tower	
WBAS, Lambert Field		
<u>Commentary</u>		
One sampler contained contamination dosage.		
<u>Synoptic Situation</u>		
The St. Louis area was under the influence of a low pressure cell centered over Michigan. Strong gusty northwesterly winds, cloudy skies and strong cold air advection existed during the experiment.		

Table 1 (continued). EXPERIMENT SUMMARY SHEETS



SAMPLER DOSAGE DATA

The sampler flow rate of Rotorod samplers was assumed constant at 41.3 liters per minute. Rotorod sampler efficiency depended on the size of the fluorescent particles and thus on the lot number. The sampler efficiency for each lot number used is listed in Table 2. Flow rates of drum-pulsed samplers are given in Table 3.

Table 2. ROTOROD SAMPLER EFFICIENCIES

	Lot number						
	1320	1339-1	1339-2	1339-3	1339-4	1339-5	H-454
Sampler efficiency	0.61	0.61	0.61	0.61	0.60	0.60	0.59

The efficiencies were read from a calibration curve (Brown and Webster, 1964; Appendix E-1).

Table 3. FLOW RATES OF DRUM-PULSED SAMPLERS^a

	Sampler number									
	1	2	3	4	5	7	8	9	10	12
Flow rate, liters/minute	47.0	46.0	45.8	49.0	48.0	46.3	51.8	45.0	48.2	44.0

^aSampler efficiencies of the drum-pulsed samplers were assumed constant at 90%.

Dosage data obtained during the 43 experiments are presented in Tables 4 through 6.

Table 4 presents the total surface dosages provided by the Rotorod, membrane filter, and drum-pulsed samplers. To facilitate comparisons and possible computations, the table lists the arc upon which samplers were located, the azimuth in terms of true north, the range of the samplers from the tracer release site, and the time samplers were turned on and off. These times are reported to

the nearest whole minute for the Rotorod and membrane filter samplers and to the nearest second for the drum-pulsed sampler. Drum-pulsed samplers yielded a time resolution of the passage of tracer clouds in addition to the total dosages.

Table 5 lists sequential dosages provided by the drum-pulsed samplers and times of the end of sampling intervals. In each case the period of record begins with the first non-zero sample and ends with the last non-zero sample. Samples of 1-, 2-, or 4- minute duration were taken, depending on the distance from release site to the sampler and on existing meteorological conditions.

Table 6 lists the total dosages in the vertical provided by Rotorod samplers attached to tethered balloons. Heights above the surface of samplers were computed from (time) mean clinometer angles and length of tethering line between samplers and from the surface to the lowest sampler. The opposing but quantitatively unknown effects of stretch in the tethered line and curvature of the tethered line were neglected in these computations. Tethered sampling was not attempted in the daytime when the mean wind speed at balloon level was expected to exceed 20 mph or at night when the wind speed at balloon level was expected to exceed 25 mph. Total dosages were converted to equivalent concentrations by the equation:

$$X = 10^3 n / vet$$

where X = equivalent concentration, particles per cubic meter
 n = number of particles (dosage)
 v = sampler flow rate, liters per minute
 e = efficiency of the sampler, decimal fraction
 t = duration of tracer release, minutes

TABLE 4. TOTAL DOSAGES AT SURFACE

Symbols

R(m)	: Range to the nearest 10 meters of sampler from dissemination site
Dosage, Part	: Number of (fluorescent) particles
X, Part/m ³	: Equivalent concentration, particles per cubic meter
RR	: Rotorod sampler
MF	: Membrane filter sampler
DP	: Drum-pulsed sampler
Site A	: Forest Park
Site B	: Roof of the Knights of Columbus Building

Table 4 (continued). TOTAL DOSAGES AT SURFACE

23 May 1963			Experiment No. 1		No Tracer Released (Dry Run)			27 May 1963		Experiment No. 2		Tracer Release from Site A:1410 to 1440 CST		
Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³
1	10.8	940	RR	1311	1325	1	1	87.4	800	RR	1403	1601	6	8
1	22.7	980	RR	1307	1331	2	1	115.7	770	MF	1405	1558	1712	6341
1	35.4	910	MF	1302	1334	2	1	110.9	740	MF	1400	1553	1406	5207
1	43.7	960	RR	1300	1339	2	1	118.0	770	RR	1358	1547	38837	51725
1	51.7	820	MF	1258	1343	0	1	122.1	680	RR	1354	1546	64397	85767
1	68.9	850	MF	1244	1350	2	1	137.9	670	DP-4	1350:58	1535:40	- a	-
1	87.4	800	MF	1240	1356	0	1	143.6	670	RR	1348	1524	18	24
1	105.7	770	DP-8	1232	1401	0	1	147.8	630	RR	1348	1523	1	1
1	122.1	680	RR	1230	1407	3	1	154.5	600	MF	1408	1515	0	0
1	137.9	670	MF	1225	1411	2	1	171.4	580	RR	1340	1513	2	3
2	31.6	3480	RR	1302	1310	4	1	191.1	650	RR	1343	1510	1	1
2	42.9	3180	RR	1300	1317	1	2	95.0	2980	RR	1418	1518	0	0
2	60.2	3200	MF	1255	1324	2	2	101.6	3150	RR	1415	1520	34	45
2	77.3	3270	RR	1248	1331	3	2	122.6	3080	MF	1407	1531	1118	4141
2	122.6	3080	MF	1237	1300	2	2	129.1	3180	RR	1409	1537	4602	6129
2	138.7	3320	MF	1235	1352	0	2	134.2	3230	RR	1407	1541	162	216
2	154.1	3230	RR	1233	1354	2	2	138.7	3220	DP-1	1403:00	1617:45	0	0
2	167.0	3240	RR	1230	1358	1	2	143.8	3250	RR	1358	1548	0	0
2	181.8	3370	RR	1234	1405	2	2	154.1	3230	RR	1353	1605	0	0
3	19.6	6980	RR	1324	1341	0	2	160.2	3180	MF	1351	1556	0	0
3	32.5	7710	RR	1306	1348	0	2	171.3	3240	RR	1349	1602	1	1
3	41.6	7610	RR	1304	1352	1	3	104.8	6810	RR	1430	1717	1	1
3	55.1	7610	MF	1256	1358	10	3	110.8	6490	RR	1427	1714	62	83
3	67.6	7390	MF	1252	1404	2	3	113.5	6410	RR	1424	1710	88	117
3	88.2	7240	RR	1240	1423	0	3	123.0	6360	RR	1421	1705	345	459
3	104.8	6810	DP-6	1240	1414	0	3	128.5	6670	MF	1416	1649	16	59
3	113.5	6410	MF	1245	1400	0	3	131.4	6470	RR	1410	1643	0	0
3	128.5	6670	MF	1251	1351	4	3	136.7	6250	DP-3	1407:10	1631:10	0	0
3	136.7	6250	RR	1257	1341	1	3	142.0	6180	MF	1400	1623	0	0
3	152.2	6780	RR	1300	1336	3	3	152.2	6780	MF	1357	1618	0	0
3	165.1	7450	RR	1305	1326	1	3	157.7	7360	RR	1354	1613	0	0
3	184.8	7170	RR	1312	1320	0	3	165.1	7450	RR	1351	1610	1	1
							3	184.8	7170	RR	1342	1603	0	0

^aCollector tape damaged; no data obtained.

Table 4 (continued). TOTAL DOSAGES AT SURFACE

28 May 1963			Experiment No. 3			Tracer Release from Site A:1000 to 1100 CST			19 July 1963			Experiment No. 4			Tracer Release from Site A:1130 to 1230 CST		
Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³		Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	
1	60.9	790	RR	0959	1205	2	1		1	19.5	970	RR	1128	1236	1239	838	
1	80.6	780	MF	0954	1202	11776	21808		1	29.6	930	MF	1127	1242	8256	15289	
1	87.4	800	MF	0951	1154	20740	38408		1	35.4	910	MF	1126	1246	9742	18041	
1	94.8	750	RR	0948	1150	64671	43066		1	41.1	980	RR	1125	1325	34158	23090	
1	105.7	770	DP-4	0943:40	1109:40	203474	76899		1	43.7	960	RR	1125	1324	45162	30528	
1	110.4	740	MF	0940	1126	31010	57427		1	45.1	910	MF	1123	1316	31390	58131	
1	118.0	770	RR	0937	1137	40540	26997		1	51.7	820	DP-3	1118:00	1328:50	- b	-	
1	122.1	680	RR	0935	1140	9931	6613		1	60.9	790	MF	1115	1334	31528	58387	
1	137.9	670	RR	0929	1145	1	1		1	68.9	850	MF	1113	1337	31058	57518	
2	65.4	3470	RR	1004	1220	6	4		1	75.4	870	RR	1104	1339	10272	6944	
2	83.9	3150	RR	0959	1214	192	128		1	87.4	800	RR	1103	1343	4782	3232	
2	88.4	3070	RR	0956	1209	2311	1539		2	18.5	3400	RR	1208	1301	2 ^c	2	
2	95.0	2980	MF	0955	1205	1064	1970		2	31.6	3480	MF	1214	1308	42 ^c	78	
2	101.6	3150	RR	0952	1202	13712	9131		2	36.4	3330	MF	1127	1315	442	819	
2	112.0	3110	DP-1	0950:00	1150:32	5743	2263		2	42.0	3410	RR	1125	1326	960	649	
2	122.6	3080	MF	0946	1143	8	1137		2	48.6	3400	RR	1121	1333	8286	5601	
2	129.1	3180	MF	0942	1137	2	4		2	53.6	3200	RR	1119	1337	7410	5009	
2	134.2	3230	RR	0940	1144	0	0		2	65.4	3470	DP-5	1115:00	1347:00	3425	1321	
2	143.8	3250	RR	0938	1133	0	0		2	68.5	3260	RR	1110	1410	1534	1037	
3	79.4	7430	RR	1019	1312	4	3		2	72.3	3230	RR	1150	1405	293 ^c	198	
3	84.7	7240	RR	1015	1306	9	6		2	79.3	3270	RR	1159	1418	12 ^c	8	
3	88.2	7240	RR	1009	1300	90	60		2	83.9	3150	RR	1157	1424	24 ^c	16	
3	94.2	7040	RR	1004	1254	603	402		3	19.6	6980	RR	1104	1413	0	0	
3	104.8	6810	MF	1001	1246	456	844		3	25.4	7230	RR	1110	1410	0	0	
3	110.8	6490	DP-3	0955:40	1235:40	1979	800		3	32.5	7710	RR	1116	1403	2	2	
3	113.5	6410	MF	0951	1227	148	274		3	37.7	7690	RR	1119	1401	4	3	
3	123.0	6360	MF	0947	1220	614	15		3	43.6	7590	MF	1121	1357	82	152	
3	128.5	6670	RR	0940	1215	1	1		3	48.7	7670	DP-4	1124:55	1349:55	- d	-	
3	136.7	6250	RR	0936	1208	0	0		3	55.1	7610	MF	1130	1344	- e	-	
									3	61.6	7590	MF	1138	1340	246	456	
									3	67.4	7560	RR	1141	1337	13	9	
									3	73.5	7520	RR	1143	1335	0	0	
									3	79.4	7430	RR	1145	1333	0	0	
									3	87.4	7240	RR	1150	1330	2	2	

^b Collector tape damaged; no data obtained.

^c Samplers probably not in operation until after initial elements of tracer cloud reached them; loss in dosage not considered to be significant and thus no revision in listed measured dosages made.

^d Collector tape damaged; no data obtained.

^e Sampler damaged; no data obtained.

Table 4 (continued). TOTAL DOSAGES AT SURFACE

22 July 1963				Experiment No. 5				Tracer Release from Site B:1104 to 1204 CST				23 July 1966				Experiment No. 6				Tracer Release from Site B:1130 to 1230 CST			
Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	x Part./m ³	Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	x Part./m ³	Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	x Part./m ³
4	346.7	1970	RR	1030	1223	4478	3027	4	286.2	1880	MF	1052	1303	164	304	4	307.2	1930	MF	1054	1307	1302	2411
4	355.5	1910	MF	1032	1227	348	644	4	315.6	2140	RR	1059	1313	3338	2256	4	346.7	1970	RR	1104	1320	0	0
4	4.7	2020	MF	1036	1231	416	770	4	355.5	1910	DP-2	1106:00	1324:30	0	0	4	004.7	2020	MF	1109	1348	0	0
4	15.5	1870	MF	1038	1236	1056	1956	4	015.5	1870	MF	1114	1337	0	0	4	020.8	1920	RR	1115	1339	0	0
4	15.5	1870	RR	1039	1233	3816	2580	4	027.6	1970	MF	1117	1343	0	0	4	040.0	1930	RR	1119	1347	0	0
4	20.8	1920	RR	1044	1243	3780	2555	4	0359.3	4090	MF	1112	1412	21	39	4	005.6	4250	RR	1048	1339	3033	2050
4	27.6	1970	DP-2	1046:30	1245:30	1822 ^f	734	5	011.0	4250	DP-5	1116:00	1422:46	0	0	5	019.6	4300	RR	1125	1433	45	1459
4	33.1	1940	RR	1047	1247	186	126	5	023.0	4420	RR	1128	1440	0	0	5	031.2	4470	RR	1131	1447	0	0
4	40.0	1930	RR	1052	1255	0	0	5	304.8	7910	RR	1100	1531	1945	1315	5	322.7	8070	MF	1110	1517	232	1675
4	50.6	1890	MF	1055	1257	0	0	6	328.5	8060	RR	1115	1510	32	430	6	341.5	7920	DP-3	1129:16	1457:16	0	22
4	61.4	2010	MF	1056	1303	0	0	6	353.0	8120	RR	1137	1446	1	1	6	357.7	8070	MF	1142	1440	4	7
4	73.0	1980	RR	1100	1308	0	0	6	007.3	8220	DP-4	1150:06	1434:06	0	0	6	013.4	7920	RR	1153	1425	0	0
5	349.3	4310	RR	1110	1249	3037	2053	6	020.9	8140	MF	1159	1416	4	7	6	023.9	8130	MF	1204	1410	0	0
5	359.3	4090	MF	1113	1257	2968	548	6	304.8	7910	RR	1100	1531	1945	1315	6	322.7	8070	MF	1110	1517	232	1675
5	41.0	4180	RR	1123	1316	1434	969	6	328.5	8060	RR	1115	1510	32	430	6	341.5	7920	DP-3	1129:16	1457:16	0	22
5	19.6	4300	RR	1104	1321	620	419	6	353.0	8120	RR	1137	1446	1	1	6	357.7	8070	MF	1142	1440	4	7
5	23.0	4420	RR	1100	1323	780	527	6	007.3	8220	DP-4	1150:06	1434:06	0	0	6	013.4	7920	RR	1153	1425	0	0
5	31.9	4260	RR	1054	1329	256	173	6	020.9	8140	MF	1159	1416	4	7	6	023.9	8130	MF	1204	1410	0	0
5	35.2	4230	RR	1051	1333	15 ^h	10	6	304.8	7910	RR	1100	1531	1945	1315	6	322.7	8070	MF	1110	1517	232	1675
5	42.1	4120	MF	1048	1339	0	0	6	328.5	8060	RR	1115	1510	32	430	6	341.5	7920	DP-3	1129:16	1457:16	0	22
5	46.9	4210	RR	1043	1347	0	0	6	353.0	8120	RR	1137	1446	1	1	6	357.7	8070	MF	1142	1440	4	7
5	59.0	4170	RR	1037	1353	0	0	6	007.3	8220	DP-4	1150:06	1434:06	0	0	6	013.4	7920	RR	1153	1425	0	0
5	71.7	4080	RR	1033	1359	1	1	6	020.9	8140	MF	1159	1416	4	7	6	023.9	8130	MF	1204	1410	0	0
6	346.7	8100	RR	1126	1324	777	525	6	304.8	7910	RR	1100	1531	1945	1315	6	322.7	8070	MF	1110	1517	232	1675
6	357.7	8070	RR	1120	1330	1418	959	6	328.5	8060	RR	1115	1510	32	430	6	341.5	7920	DP-3	1129:16	1457:16	0	22
6	13.4	7920	RR	1113	1337	1085	733	6	353.0	8120	RR	1137	1446	1	1	6	357.7	8070	MF	1142	1440	4	7
6	20.9	8170	DP-4	1106:35	1342:35	836	316	6	007.3	8220	DP-4	1150:06	1434:06	0	0	6	013.4	7920	RR	1153	1425	0	0
6	23.9	8160	MF	1055	1355	258	478	6	020.9	8140	MF	1159	1416	4	7	6	023.9	8130	MF	1204	1410	0	0
6	23.9	8160	RR	1057	1357	667	451	6	304.8	7910	RR	1100	1531	1945	1315	6	322.7	8070	MF	1110	1517	232	1675
6	33.6	8200	DP-3	1046:45	1402:45	225	91	6	328.5	8060	RR	1115	1510	32	430	6	341.5	7920	DP-3	1129:16	1457:16	0	22
6	39.8	7630	RR	1040	1415	27	18	6	353.0	8120	RR	1137	1446	1	1	6	357.7	8070	MF	1142	1440	4	7

^fBug found in collector orifice; measured dosage of 911 particles adjusted.^gPlastic dust cap was left on; measured dosage of 74 particles adjusted.^hPlastic dust cap left on; adjustment in measured dosage considered unnecessary.

Table 4 (continued). TOTAL DOSAGES AT SURFACE

July 25, 1963				Experiment No. 7				Tracer Release from Site B:1040 to 1140 CST				July 26, 1963				Experiment No. 8				Tracer Release from Site B: 1045 to 1145 CST			
Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³
4	275.0	2290	RR	1033	1204	2	1	4	307.2	1930	RR	1003	1216	3	2								
4	286.2	1880	MF	1029	1208	2	4	4	315.6	2140	RR	1007	1205	316	214								
4	293.9	2000	MF	1026	1213	62	115	4	332.1	1980	MF	1014	1220	12,641	23,411								
4	300.6	2020	RR	1024	1219	793	537	4	341.0	2030	MF	1018	1226	14,915	27,623								
4	307.2	1930	RR	1022	1222	1678	1101	4	346.7	1970	RR	1024	1230	16,498	11,523								
4	311.5	2050	RR	1019	1234	2807	1898	4	350.7	2010	RR	1024	1233	10,224	6911								
4	315.6	2140	DP-2	1014:50	1228:50	3344	1346	4	355.5	1910	DP-2	1027:50	1236:50	16,090	6478								
4	323.4	1940	MF	1012	1241	3122	5782	4	001.0	1930	MF	1034	1245	186	344								
4	341.0	2030	MF	1008	1248	984	1822	4	004.7	2020	MF	1039	1250	14	26								
4	350.4	2010	RR	1006	1252	16	11	4	022.6	1970	RR	1044	1258	6	4								
4	001.0	1930	RR	1004	1255	1	1	5	315.3	4050	RR	0957	1324	0	0								
5	278.3	4160	RR	1038	1242	0	0	5	324.7	4250	RR	1000	1328	28	19								
5	288.5	4190	RR	1033	1245	1	1	5	337.6	4120	MF	1006	1338	3367	6236								
5	296.1	4270	MF	1031	1250	4	7	5	341.7	4170	MF	1009	1345	2514	4656								
5	302.7	4120	MF	1029	1259	24	44	5	349.3	4310	DP-5	1011:00	1353:45	5000	1929								
5	305.5	4250	MF	1027	1314	86	159	5	353.9	4250	MF	1016	1405	352	652								
5	315.3	4050	DP-5	1020:38	1322:38	698	269	5	359.3	4090	MF	1020	1411	9	17								
5	321.2	4360	MF	1017	1333	448	830	5	005.6	4250	MF	1022	1414	4	7								
5	324.7	4250	MF	1015	1341	471	872	5	017.0	4280	RR	1024	1422	0	0								
5	337.6	4120	RR	1009	1348	159	107	5	031.2	4470	RR	1027	1425	0	0								
5	349.3	4310	RR	1006	1355	0	0	6	304.8	7910	RR	1052	1242	1	1								
5	359.3	4090	RR	1003	1402	0	0	6	318.9	7640	RR	1045	1249	0	0								
6	272.1	7720	RR	1105	1321	0	0	6	328.5	8060	MF	1036	1255	222	411								
6	283.5	7150	RR	1101	1325	0	0	6	341.5	7920	DP-4	1023:55	1307:42	5720	2162								
6	294.3	7380	RR	1058	1330	0	0	6	346.8	7980	RR	1020	1321	2153	1455								
6	301.1	7720	DP-3	1053:06	1337:06	0	0	6	354.9	8890	RR	1016	1325	267	180								
6	304.8	7910	MF	1045	1347	34	63	6	001.3	8620	DP-3	1012:29	1332:29	0	0								
6	312.8	8020	RR	1042	1355	724	489	6	013.4	7920	RR	1001	1344	0	0								
6	318.0	7930	RR	1037	1400	2025	1369	6	023.9	8330	RR	0957	1349	0	0								
6	322.7	8070	DP-4	1032:50	1408:50	3342	1263																
6	335.4	7860	RR	1020	1423	0	0																
6	346.7	8100	RR	1012	1431	1	1																
6	357.7	8070	RR	1007	1438	0	0																

Table 4 (continued). TOTAL DOSAGES AT SURFACE

September 12, 1963 Experiment No. 9 Tracer Release from Site A: 1115 to 1215 CCT										September 14, 1963 Experiment No. 10 Tracer Release from Site B: 1045 to 1145 CCT									
Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CCT)	Time Off (CCT)	Dosage Part.	X Part./m ³			Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CCT)	Time Off (CCT)	Dosage Part.	X Part./m ³		
1	91.8	780	RR	1044	1258	11	7			4	273.2	1860	RR	1033	1232	14	9		
1	104.0	770	RR	1046	1255	7	5			4	274.7	1850	RR	1035	1234	6	4		
1	110.4	770	MF	1047	1248	2074	3841												
1	115.8	750	DP-4	1048:06	1243:03	36,862	13,928			5	269.8	4340	RR	1106	1246	0	0		
1	122.6	780	RR	1052	1237	110,431	72,937			5	276.1	4260	RR	1104	1250	1	1		
1	127.2	700	RR	1054	1236	136,377	90,074			6	269.3	7210	RR	1048	1317	0	0		
1	134.2	730	RR	1055	1232	113,430	74,918			6	275.9	7220	MF	1051	1323	5	9		
1	142.4	700	MF	1055	1226	68,985	127,753												
1	147.8	710	MF	1058	1221	76,913	142,435												
1	158.4	650	RR	1100	1224	63,556	41,984												
2	95.2	3000	RR	1043	1338	0	0												
2	104.0	3190	RR	1051	1334	1	1												
2	112.0	3110	DP-1	1045:15	1319:35	0	0												
2	116.0	3380	MF	1059	1314	6	11												
2	122.6	3080	MF	1102	1306	274	507												
2	129.1	3180	DP-5	1105:20	1259:35	6675	2575												
2	134.2	3230	RR	1108	1254	8300	5482												
2	138.7	3320	MF	1111	1245	2979	5517												
2	143.8	3250	RR	1116	1241	10,588	6993												
2	154.1	3230	RR	1120	1237	1453	960												
3	88.2	7240	RR	1105	1314	0	0												
3	94.2	7040	RR	1112	1323	0	0												
3	104.8	6810	RR	1118	1332	1	1												
3	110.8	6490	DP-2	1130:00	1339:10	0	0												
3	113.5	6410	MF	1131	1355	0	0												
3	123.0	6360	MF	1124	1346	18	33												
3	128.5	6670	DP-3	1112:09	1334:09	598	241												
3	131.4	6470	MF	1104	1323	1036	1919												
3	145.0	6380	RR	1058	1317	2801	1850												
3	152.2	6780	RR	1056	1313	1156	770												
3	157.7	7360	RR	1051	1305	92	61												

¹Tracer cloud appeared to almost completely miss the sampling area. Above samplers analyzed to verify this observation. On the basis of the results of this assessment, no further analysis attempted.

Table 4 (continued). TOTAL DOSAGES AT SURFACE

September 16, 1963 Experiment No. 11 Tracer Release from Site B : 1100to 1200 CST										September 17, 1963 Experiment No. 12 Tracer Release from Site B : 2000 to 2030 CST									
Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³				
4	286.2	1880	RR	1019	1227	2	1	4	286.2	1880	RR	1943	2109	0	0				
4	293.9	2000	MF	1021	1230	2	4	4	293.9	2000	MF	1945	2114	2	7				
4	300.6	2020	RR	1023	1236	14	9	4	300.6	2020	RR	1948	2120	0	0				
4	307.2	1930	MF	1025	1238	302	559	4	307.2	1930	DP-4 ^j	1932:20	2051:20	445	336				
4	311.5	2050	RR	1031	1251	1578	1042	4	311.5	2050	RR	1954	2140	826	1091				
4	315.6	2140	DP-4	1048:20	1245:20	16246	6139	4	315.6	2140	MF	1951	2138	5722	21193				
4	323.4	1940	MF	1035	1258	8331	15428	4	323.4	1940	MF	1957	2128	6590	24407				
4	332.1	1980	MF	1036	1304	6924	12823	4	332.1	1980	MF	2000	2145	82	304				
4	341.0	2030	RR	1039	1310	10232	6758	4	346.7	1970	RR ^k	2003	2151	1	1				
4	350.4	2010	RR	1041	1315	1129	746	4	355.5	1910	RR	2005	2150	2	3				
5	288.5	4190	RR	1021	1250	2	1	5	288.5	4190	RR	1934	2126	1	1				
5	296.1	4270	MF	1026	1256	0	0	5	296.1	4270	RR	1940	2130	0	0				
5	302.7	4120	DP-5	1030:05	1305:10	0	0	5	305.5	4230	RR	1943	2135	1	1				
5	305.5	4250	MF	1036	1312	0	0	5	315.3	4050	MF	1947	2137	1686	6244				
5	315.3	4050	MF	1039	1320	684	1267	5	321.2	4360	MF	1948	2143	8193	30344				
5	321.2	4360	MF	1044	1324	1278	2367	5	321.2	4360	RR	1952	2145	19095	25224				
5	324.7	4250	DP-1	1046:25	1329:45	4128	1626	5	324.7	4250	MF	1954	2150	1998	7400				
5	330.7	4240	MF	1051	1337	1532	2837	5	330.7	4240	DP-5	1957:00	2155:00	50	39				
5	337.6	4120	RR	1055	1344	4233	2796	5	337.6	4120	MF	2004	2206	2	7				
5	349.3	4310	RR	1100	1348	4	3	5	342.8	4170	RR	2007	2214	9	12				
6	283.5	7150	RR	1106	1416	0	0	5	353.9	4250	RR	2009	2218	5	7				
6	289.6	7240	RR	1103	1411	0	0	6	283.5	7150	RR ¹	2028	2120	8	11				
6	294.3	7380	RR	1101	1406	3	2	6	289.6	7240	RR ¹	2026	2230	9	12				
6	301.1	7720	MF	1057	1401	0	0	6	294.3	7380	RR ¹	2023	2235	7	9				
6	304.8	7910	DP-2	1051:10	1354:45	0	0	6	301.1	7720	MF ¹	2020	2241	0	0				
6	312.8	8020	RR	1047	1347	2	1	6	304.8	7910	DP-2 ¹	2038:05	2248:00	0	0				
6	318.0	7930	RR	1047	1347	235	155	6	312.8	8020	RR ¹	2015	2300	38	50				
6	322.7	8070	DP-3	1050:00	1352:45	1483	601	6	318.0	7930	RR	1945	2246	191	252				
6	328.5	8060	MF	1100	1404	782	1448	6	322.7	8070	MF	1949	2340	1410	5222				
6	335.4	7860	RR	1110	1413	1257	830	6	328.5	8060	DP-3	1956:14	2231:59	0	0				
6	341.5	7920	RR	1114	1418	72	48	6	335.4	7860	RR	2001	2224	4	5				
6								6	341.5	7920	RR	2005	2219	0	0				
^j Sampler turned off prematurely by a local resident; no satisfactory method discovered for adjusting listed measured dosage.																			
^k Sampler removed and then replaced during the experiment by a person or persons unknown; no satisfactory method discovered for adjusting listed measured dosage.																			
¹ Samplers probably not in operation until after initial elements of tracer cloud reached them; loss of dosage considered to be insignificant, and thus no revisions in listed measured dosages made.																			

^j Sampler turned off prematurely by a local resident; no satisfactory method discovered for adjusting listed measured dosage.

^k Sampler removed and then replaced during the experiment by a person or persons unknown; no satisfactory method discovered for adjusting listed measured dosage.

¹ Samplers probably not in operation until after initial elements of tracer cloud reached them; loss of dosage considered to be insignificant, and thus no revisions in listed measured dosages made.

Table 4 (continued). TOTAL DOSAGES AT SURFACE

September 19, 1963 Experiment No. 13 Tracer Release from Site B: 2000 to 2100 CST										April 1, 1964 Experiment No. 14 Tracer Release from Site B: 1200 to 1300 CST									
Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³				
4	286.2	1880	RR ^m	1935	2215	5340	3527	4	300.6	2020	RR	1128	1358	177	117				
4	297.2	2010	RR ^m	1941	2214	3685	2434	4	311.5	2050	RR	1136	1323	11,606	7,703				
4	307.2	1930	RR ^m	1929	2210	6089	4022	4	315.6	2140	RR	1135	1315	11,645	7,729				
4	311.5	2050	RR ^m	1925	2206	4436	2930	4	323.4	1940	MF	1138	1323	5,362	9,930				
4	315.6	2140	MF ^m	1922	2159	144	267	4	332.1	1980	DP-3	1141:25	1334:27	5,101	2062				
4	323.4	1940	MF	1946	2125	16970	31427	4	341.0	2030	MF	1144	1338	4	7				
4	341.0	2030	MF ^m	1954	2142	878	1626	4	346.7	1970	RR	1147	1336	16	11				
4	346.7	1970	RR ^m	1959	2147	1956	1292	4	350.4	2010	RR	1149	1339	14	9				
4	350.4	2010	RR ^m	2003	2150	1391	919	4	355.5	1910	DP-8	1150:55	1343:05	0	0				
4	355.5	1910	RR ^m	2007	2154	12	8	4	001.0	1930	MF	1152	1343	4	7				
5	282.7	4040	RR	1933	2206	45	30	4	008.9	1910	RR	1155	1354	0	0				
5	296.1	4270	RR	1938	2210	15	10	4	020.8	1920	RR	1157	1356	16	11				
5	305.5	4250	RR	1942	2213	25	17	5	296.1	4270	RR	1145	1315	7	5				
5	315.3	4050	MF	1945	2218	14	26	5	302.7	4120	RR	1150	1319	55	36				
5	321.2	4360	DP-5	1948:55	2226:45	15	6	5	308.7	4150	RR	1155	1325	960	637				
5	324.7	4250	MF	1950	2233	24	44	5	315.3	4050	MF	1156	1333	1015	1880				
5	330.7	4240	DP-2	1954:30	2238:30	27	11	5	321.2	4360	DP-4	1156:40	1332:40	952	360				
5	337.6	4120	DP-1	1959:55	2247:40	2352	925	5	324.7	4250	MF	1202	1345	384	711				
5	342.8	4170	RR	2005	2257	2723	1798	5	330.7	4240	MF	1205	1350	376	696				
5	349.3	4310	RR	2008	2301	5819	3843	5	337.6	4120	DP-1	1142:30	1330:02	0	0				
5	353.9	4250	RR	2011	2306	5356	3538	5	341.7	4220	MF	1150	1339	6	11				
6	294.3	7380	RR	2030	2312	0	0	5	349.3	4310	MF	1153	1345	16	30				
6	301.1	7720	RR	2028	2307	0	0	5	353.9	4250	DP-2	1157:26	1353:26	0	0				
6	304.8	7910	MF ^m	2024	2258	14	26	5	359.3	4090	MF	1200	1400	0	0				
6	312.8	8020	RR ^m	2018	2251	1	1	5	005.6	4250	RR	1203	1405	34	22				
6	318.0	7930	RR ^m	2012	2243	9	6	5	011.4	4190	RR	1208	1408	66	44				
6	322.7	8070	MF ^m	2100	2235	2	4	5	017.0	4280	RR	1210	1411	21	14				
6	328.5	8060	DP-3 ^m	2015:00	2230:55	0	0	6	297.0	7490	RR	1215	1447	14	9				
6	335.4	7860	RR	2002	2241	26	17	6	302.3	7770	RR	1212	1441	3	2				
6	341.5	7920	MF	1952	2249	73	103	6	308.5	8230	RR	1209	1437	12	8				
6	346.7	8100	RR	1946	2300	175	116	6	312.8	8020	MF	1207	1427	183	339				
6	353.0	8120	RR	1938	2307	220	145	6	316.0	7790	DP-7	1204:20	1414:00	2414	966				
m								6	332.6	7980	DP-10	1145:45	1339:56	-	-				
								6	321.2	7930	MF	1200	1403	261	483				
								6	325.9	8020	MF	1156	1357	156	289				
								6	328.5	8060	MF	1151	1350	96	178				
								6	335.4	7860	RR	1141	1231	36	24				
Samplers appeared to have been turned off before the entire tracer cloud reached them; no satisfactory method discovered for adjusting listed, measured dosages.																			

^m Samplers appeared to have been turned off before the entire tracer cloud reached them; no satisfactory method discovered for adjusting listed, measured dosages.

Table 4 (continued). TOTAL DOSAGES AT SURFACE

April 1, 1964				Experiment No. 14 Tracer Release from Site B : 1200 to 1300 CST				April 6, 1964				Experiment No. 15 Tracer Release from Site B : 2040 to 2140 CST			
(CONTINUED)															
Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part./m ³	X Part./m ³	Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part./m ³	X Part./m ³
6	339.0	7990	RR	1128	1330	38	25	4	323.4	1940	RR	2013	2155	40	26
6	341.5	7920	MF	1124	1335	2	4	4	341.0	2030	MF	2019	2200	4	7
6	344.4	8100	RR	1132	1344	40	26	4	350.4	2010	RR	2017	2206	34	22
6	346.8	7980	RR	1135	1348	15	10	4	355.5	1910	DP-3	2023:50	2209:49	0	0
6	349.5	7880	DP-5	1142:24	1356:11	0	0	4	01.0	1930	MF	2029	2220	2	4
6	351.7	8430	MF	1152	1409	0	0	4	04.7	2020	MF	2032	2227	2	4
6	358.4	8860	MF	1156	1419	0	0	4	08.9	1910	DP-8 ⁰	2034:30	2233:24	7392	2642
6	003.5	8470	RR	1159	1424	0	0	4	15.5	1870	MF	2036	2240	1952	3615
6	007.3	8220	RR	1202	1428	26	17	4	27.6	1970	RR	2040	2247	776	515
6	013.4	7920	RR	1204	1439	0	0	4	40.0	1930	RR	2042	2250	1154	766
n Measured dosage of 2892 particles considered to be contamination.															
5	324.7	4250	RR	2015	2206	23	15	5	324.7	4250	RR	2015	2206	23	15
5	337.6	4120	RR	2019	2211	16	11	5	337.6	4120	RR	2019	2211	16	11
5	349.3	4310	RR	2024	2216	11	7	5	349.3	4310	RR	2024	2216	11	7
5	353.9	4250	RR	2028	2221	31	20	5	353.9	4250	RR	2028	2221	31	20
5	359.3	4090	DP-9	2031:00	2225:35	0	0	5	359.3	4090	DP-9	2031:00	2225:35	0	0
5	05.6	4250	RR	2021	2205	7	5	5	05.6	4250	RR	2021	2205	7	5
5	11.4	4190	RR	2024	2211	2	1	5	11.4	4190	RR	2024	2211	2	1
5	17.0	4280	RR	2026	2216	131	87	5	17.0	4280	RR	2026	2216	131	87
5	27.6	4620	RR	2039	2235	125	83	5	27.6	4620	RR	2039	2235	125	83
5	18.4	4320	RR	2028	2220	148	98	5	18.4	4320	RR	2028	2220	148	98
5	25.9	4410	DP-1	2032:24	2238:24	223	88	5	25.9	4410	DP-1	2032:24	2238:24	223	88
5	36.6	3970	RR	2042	2243	114	76	5	36.6	3970	RR	2042	2243	114	76
6	325.9	8020	RR	2017	2225	4	3	6	325.9	8020	RR	2017	2225	4	3
6	335.4	7860	RR	2021	2230	14	9	6	335.4	7860	RR	2021	2230	14	9
6	341.5	7920	RR	2025	2233	11	7	6	341.5	7920	RR	2025	2233	11	7
6	346.8	7980	RR	2027	2237	8	5	6	346.8	7980	RR	2027	2237	8	5
6	351.7	8430	DP-7 ^p	2033:05	2244:10	0	0	6	351.7	8430	DP-7 ^p	2033:05	2244:10	0	0
6	354.9	8890	RR	2038	2254	12	8	6	354.9	8890	RR	2038	2254	12	8
6	358.4	8860	MF	2041	2257	0	0	6	358.4	8860	MF	2041	2257	0	0
6	01.3	8620	MF	2044	2303	2	4	6	01.3	8620	MF	2044	2303	2	4
6	05.2	8340	DP-2	2055:03	2221:00	0	0	6	05.2	8340	DP-2	2055:03	2221:00	0	0
6	09.3	8100	MF ²	2049	2130	1	2	6	09.3	8100	MF ²	2049	2130	1	2

Table 4 (continued). TOTAL DOSAGES AT SURFACE

April 6, 1964				Experiment No. 15				Tracer Release from Site B : 2040 to 2140 CST				April 7, 1964				Experiment No. 16				Tracer Release from Site A : 2048 to 2148 CST			
Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	x Part./m ³	Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	x Part./m ³	Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	x Part./m ³
6	13.4	7920	RR	2046	2240	3	2	1	105.7	770	RR	2040	2225	21,998	14,600	1	105.7	770	RR	2040	2225	21,998	14,600
6	18.2	8370	RR	2021	2248	5	3	1	118.0	770	RR	2038	2222	75,181	49,898	1	118.0	770	RR	2038	2222	75,181	49,898
6	23.9	8160	RR	2028	2304	6	4	1	122.1	680	RR	2036	2220	74,495	49,442	1	122.1	680	RR	2036	2220	74,495	49,442
6	27.1	8330	DP-5	2010:30	2311:45	0	0	1	129.5	700	RR	2035	2218	73,108	48,522	1	129.5	700	RR	2035	2218	73,108	48,522
6	27.1	8330	RR	2015	2259	28	18	1	137.9	670	DP-8	2032:30	2213:30	126,704	45,297	1	137.9	670	DP-8	2032:30	2213:30	126,704	45,297
6	33.6	8200	RR	2023	2323	8	5	1	143.6	670	MF	2032	2210	1134	2100	1	143.6	670	MF	2032	2210	1134	2100
o	Plastic rain cover blew over intake orifice at an unknown time; adjustment to the measured dosage considered unnecessary.							1	147.8	630	RR	2031	2209	466	309	1	147.8	630	RR	2031	2209	466	309
								1	154.5	600	RR	2030	2207	101	67	1	154.5	600	RR	2030	2207	101	67
								1	161.4	590	RR	2029	2206	4	3	1	161.4	590	RR	2029	2206	4	3
								1	171.4	580	RR	2027	2205	7	5	1	171.4	580	RR	2027	2205	7	5
								1	182.5	600	RR	2026	2203	54	36	1	182.5	600	RR	2026	2203	54	36
P	Plastic rain cover blew over the intake orifice at an unknown time; adjustment to the measured dosage considered unnecessary.							2	106.8	3190	RR	2025	2200	17	11	2	106.8	3190	RR	2025	2200	17	11
								2	112.0	3110	RR	2027	2205	1034	686	2	112.0	3110	RR	2027	2205	1034	686
								2	116.0	3380	RR	2032	2210	1325	879	2	116.0	3380	RR	2032	2210	1325	879
								2	122.6	3080	MF	2036	2217	485	898	2	122.6	3080	MF	2036	2217	485	898
								2	134.2	3230	RR	2044	2225	4876	3236	2	134.2	3230	RR	2044	2225	4876	3236
q	Sampler turned off prematurely by a local resident; adjustment to the measured dosage considered unnecessary.							2	138.7	3320	DP-4	2048:15	2230:30	5010	1893	2	138.7	3320	DP-4	2048:15	2230:30	5010	1893
								2	143.8	3250	RR	2043	2216	193	128	2	143.8	3250	RR	2043	2216	193	128
								2	149.5	3280	RR	2047	2219	38	25	2	149.5	3280	RR	2047	2219	38	25
								2	154.1	3230	RR	2037	2222	23	15	2	154.1	3230	RR	2037	2222	23	15
								2	160.2	3180	DP-1	2031:59	2226:00	0	0	2	160.2	3180	DP-1	2031:59	2226:00	0	0
								2	167.0	3240	MF	2028	2235	4	7	2	167.0	3240	MF	2028	2235	4	7
								2	171.3	3240	RR	2026	2240	10	7	2	171.3	3240	RR	2026	2240	10	7
								2	178.0	3150	RR	2023	2245	4	3	2	178.0	3150	RR	2023	2245	4	3
								3	116.7	6410	RR	2038	2248	91	60	3	116.7	6410	RR	2038	2248	91	60
								3	123.0	6360	RR	2041	2242	16	11	3	123.0	6360	RR	2041	2242	16	11
								3	128.5	6670	MF	2035	2236	255	472	3	128.5	6670	MF	2035	2236	255	472
								3	131.4	6470	DP-10	2030:41	2231:20	5006	1923	3	131.4	6470	DP-10	2030:41	2231:20	5006	1923
								3	133.7	6410	RR	2043	2227	1390	922	3	133.7	6410	RR	2043	2227	1390	922
								3	136.7	6250	MF	2027	2223	444	822	3	136.7	6250	MF	2027	2223	444	822
								3	139.2	6160	RR	2027	2219	698	463	3	139.2	6160	RR	2027	2219	698	463
								3	142.0	6180	MF	2025	2215	50	93	3	142.0	6180	MF	2025	2215	50	93
								3	145.0	6380	DP-5	2026:17	2216:06	0	0	3	145.0	6380	DP-5	2026:17	2216:06	0	0
								3	152.2	6780	MF	2031	2229	0	0	3	152.2	6780	MF	2031	2229	0	0
								3	148.4	6660	RR	2030	2224	2	1	3	148.4	6660	RR	2030	2224	2	1
								3	156.1	6470	RR	2036	2233	0	0	3	156.1	6470	RR	2036	2233	0	0
								3	159.3	6960	DP-2	2037:20	2238:10	0	0	3	159.3	6960	DP-2	2037:20	2238:10	0	0
								3	162.5	7210	MF	2043	2247	0	0	3	162.5	7210	MF	2043	2247	0	0
								3	168.4	7510	RR	2047	2254	0	0	3	168.4	7510	RR	2047	2254	0	0
3	175.5	7290	RR	2015	2259	0	0	3	175.5	7290	RR	2015	2259	0	0	3	175.5	7290	RR	2015	2259	0	0

Table 4 (continued). TOTAL DOSAGES AT SURFACE

April 8, 1964				Experiment No. 17 ^F Tracer Release from Site A : 2030 to 2130 CST				April 9, 1964				Experiment No. 18 Tracer Release from Site A : 2045 to 2145 CST			
Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³
1	105.7	770	RR	2021	2201	6	4	1	04.0	940	RR	2024	2242	11,382	7,554
1	110.9	740	MF	2018	2158	0	0	1	10.8	940	RR	2023	2219	16,821	11,164
2	101.6	3150	RR	2003	2145	19	13	1	19.5	970	RR	2019	2215	554,126	367,773
2	106.8	3190	RR	2005	2149	30	20	1	22.7	980	RR	2018	2213	427,219	283,545
2	112.0	3110	RR	2009	2155	17	11	1	29.6	930	DP-8	2014:48	2205:51	980,245	350,438
3	110.8	6490	RR	2032	2216	0	0	1	35.4	910	MF	2012	2203	39,944	73,976
3	116.7	6410	RR	2029	2254	0	0	1	41.1	980	RR	2011	2201	55,868	37,080
3	123.0	6360	RR	2025	2220	2	1	1	43.7	960	RR	2011	2159	65,452	43,440
								1	45.1	910	RR	2010	2159	61,425	40,768
								1	51.7	820	RR	2010	2156	323,828	214,925
r Tracer cloud appeared to completely miss the sampling arcs. The above samplers analyzed to verify this observation. On the basis of the results of this assessment, no further analysis attempted.															
								1	60.9	790	RR	2009	2155	355,298	235,811
								1	68.9	850	RR	2008	2152	8,432	5,596
								2	00.2	3390	RR	2043	2234	241	160
								2	05.4	3360	RR	2040	2230	303	201
								2	11.9	3370	RR	2037	2227	916	608
								2	18.5	3400	RR	2035	2223	33,940	22,526
								2	23.0	3350	RR	2031	2217	53,582	35,562
								2	31.6	3480	DP-9	2025:30	2211:20	35,395	14,565
								2	28.0	3340	RR	2020	2241	42,873	28,455
								2	36.9	3270	RR	2024	2210	968	642
								2	42.9	3180	MF	2031	2217	10	18
								2	48.7	3470	DP-1	2038:05	2226:05	648	255
								2	53.6	3200	RR	2044	2235	0	0
								2	60.2	3200	MF	2050	2239	0	0
								2	65.4	3470	RR	2052	2247	1	1
								2	72.3	3230	RR	2057	2254	1	1
								3	04.3	7910	RR ^s	2036	2232	2	1
								3	08.3	7430	RR ^s	2041	2236	1	1
								3	13.3	7220	RR ^s	2043	2239	32	21
								3	19.6	6980	DP-7 ^s	2049:05	2247:15	1940	776
								3	25.4	7230	RR ^s	2054	2303	12,316	8,174
								3	30.1	6920	RR ^s	2055	2301	836	555
								3	32.5	7710	DP-2 ^s	2024:52	2142:02	291 ^t	117
								3	34.8	7610	MF ^s	2035	2300	22	41
								3	37.5	7740	RR ^s	2032	2257	9	6
								3	41.6	7610	MF ^s	2028	2253	2	4

Table 4 (continued). TOTAL DOSAGES AT SURFACE

April 9, 1964				Experiment No. 18 Tracer Release from Site A : 2045 to 2145 CST				June 2, 1964				Experiment No. 19 Tracer Release from Site A : 1030 to 1130 CST			
Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	x Part./m ³	Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	x Part./m ³
3	45.2	7590	RR ^s	2025	2250	5	3	1	105.7	770	MF	1025	1135:30	20,014	37,066
3	48.7	7690	DP-5	2018:23	2240:22	0	0	1	110.9	740	DP-9	1021:22	1142:54	292,025	120,168
3	55.1	7610	RR ^s	2013	2236	0	0	1	118.0	770	RR	1019	1202	117,889	79,422
3	61.6	7590	RR ^s	2008	2233	1	1	1	122.1	680	RR	1019	1201	150,212	101,198
3	67.6	7390	RR ^s	2008	2230	2	1	1	129.5	700	RR	1015	1156	92,523	62,333
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^s Samplers probably turned off before entire tracer cloud reached them; loss of dosage considered to be insignificant, and thus no revisions made in measured dosage.															
^t Sampler turned off during passage of tracer cloud; measured dosage considered to be primarily contamination; by coincidence, adjusted dosage is identical in magnitude to measured dosage.															
								1	137.9	670	DP-4	1015:15	1149:53	125,156	47,296
								1	143.6	670	MF	1010	1208	9,144	16,935
								1	147.8	630	RR	1008	1211	28,081	18,918
								1	154.5	600	RR	1007	1212	17,776	11,976
								1	161.4	590	MF	1006	1214	2,090	3,871
								1	182.5	600	RR	1004	1218	27	18
								2	106.8	3190	RR	1030	1236	5,094	3,432
								2	112.0	3110	RR	1035	1239	5,420	3,651
								2	116.0	3380	MF	1028	1229	1,336	2,474
								2	122.6	3080	DP-1	1023:40	1219:15	6,918	2,726
								2	129.1	3180	MF	1019	1208	1,356	2,511
								2	134.2	3230	RR	1016	1205	2,360	1,590
								2	138.7	3320	DP-10	1010:04	1157:30	2,936 ^u	1,128
								2	143.8	3250	RR	1010	1150	1,702	1,147
								2	149.5	3280	RR	1011	1154	210	141
								2	154.1	3230	RR	1016	1201	87	59
								2	160.2	3180	DP-5	1020:32	1207:55	0	0
								2	167.0	3240	RR	1025	1224	1	1
								2	178.0	3150	RR	1029	1225	4	3
								3	104.8	6810	RR	1018	1215	355	239
								3	110.8	6490	RR	1022	1222	319	215
								3	116.7	6410	DP-7	1025:55	1233:40	1,466	586
								3	123.0	6360	MF	1027	1237	560 ^v	1036
								3	128.5	6670	DP-3	1030:00	1249:20	583	236
								3	133.7	6410	RR	1036	1259	202	136
								3	136.7	6250	DP-2	1006:40	1214:40	536	216
								3	142.0	6180	MF	1012	1221	26	48
								3	145.0	6380	DP-8	1015:40	1225:40	147 ^w	53
								3	152.2	6780	MF	1025	1239	2	4

Table 4 (continued). TOTAL DOSAGES AT SURFACE

June 2, 1964				Experiment No. 19				Tracer Release from Site A: 1030 to 1130 CST				June 3, 1964				Experiment No. 20				Tracer Release from Site A: 1040 to 1140 CST			
(CONTINUED)																							
Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³
3	148.4	660	RR	1022	1235	2	1	1	19.5	970	RR	1027	1141	2	1	1	19.5	970	RR	1027	1141	2	1
3	159.3	690	MF	1032	- x	0	0	1	29.6	930	MF	1023	1149	6	11	1	29.6	930	MF	1023	1149	6	11
3	165.1	7450	RR	1036	1252	11	7	1	35.4	910	DP-8	1021:00	1145:07	71	25	1	35.4	910	DP-8	1021:00	1145:07	71	25
3	172.5	7460	RR	1044	1359	0	0	1	41.1	980	RR	1020	1156	128	86	1	41.1	980	RR	1020	1156	128	86
								1	45.1	910	MF	1019	1157	1132	2096		45.1	910	MF	1019	1157	1132	2096
u	Assumed contamination subtracted from measured dosage of 5390 particles.							1	51.7	820	DP-4	1016:12	1203:08	97,607	36,886		51.7	820	DP-4	1016:12	1203:08	97,607	36,886
								1	60.9	790	MF	1014	2109	27,089	50,169		60.9	790	MF	1014	2109	27,089	50,169
v	Assumed contamination subtracted from measured dosage of 566 particles.							1	68.9	850	DP-9	1011:00	1214:25	58,803	24,197		68.9	850	DP-9	1011:00	1214:25	58,803	24,197
								1	75.4	870	RR	1008	1219	50,921	34,305		75.4	870	RR	1008	1219	50,921	34,305
								1	87.4	800	RR	1007	1220	41,491	27,952		87.4	800	RR	1007	1220	41,491	27,952
w	Assumed contamination subtracted from measured dosage of 1123 particles.							2	11.9	3370	RR	1022	1222	3	2		11.9	3370	RR	1022	1222	3	2
								2	18.5	3400	RR	1020	1218	3	2		18.5	3400	RR	1020	1218	3	2
								2	23.0	3350	RR	1019	1217	9	6		23.0	3350	RR	1019	1217	9	6
								2	28.0	3340	RR	1018	1213	2	1		28.0	3340	RR	1018	1213	2	1
								2	31.6	3480	MF	1016	1208	0	0		31.6	3480	MF	1016	1208	0	0
x	Power turned off at an unknown time by a person or persons unknown; no adjustment to measured dosage considered necessary.							2	36.9	3270	DP-10	1007:54	1159:52	-y	-		36.9	3270	DP-10	1007:54	1159:52	-y	-
								2	42.9	3180	MF	1012	1155	62	12		42.9	3180	MF	1012	1155	62	12
								2	48.7	3470	DP-5	1011:04	1157:42	97	37		48.7	3470	DP-5	1011:04	1157:42	97	37
								2	53.6	3200	RR	1018	1206	50	34		53.6	3200	RR	1018	1206	50	34
								2	60.2	3200	MF	1021	1211	38	70		60.2	3200	MF	1021	1211	38	70
								2	65.4	3470	DP-1	1026:30	1225:30	272	107		65.4	3470	DP-1	1026:30	1225:30	272	107
								2	72.3	3230	RR	1035	1236	287	193		72.3	3230	RR	1035	1236	287	193
								2	77.3	3270	RR	1040	1243	848	571		77.3	3270	RR	1040	1243	848	571
								3	13.3	7220	RR	1015	1210	15	10		13.3	7220	RR	1015	1210	15	10
								3	19.6	6980	RR	1020	1217	10	7		19.6	6980	RR	1020	1217	10	7
								3	25.4	7230	RR	1023	1222	0	0		25.4	7230	RR	1023	1222	0	0
								3	32.5	7710	DP-3	1029:10	1229:00	0	0		32.5	7710	DP-3	1029:10	1229:00	0	0
								3	37.5	7740	MF	1036	1238	0	0		37.5	7740	MF	1036	1238	0	0
								3	41.6	7610	MF	1037	1242	0	0		41.6	7610	MF	1037	1242	0	0
								3	52.3	7490	RR	1022	1210	65	44		52.3	7490	RR	1022	1210	65	44
								3	52.3	7490	MF	1024	1213	38	70		52.3	7490	MF	1024	1213	38	70
								3	48.7	7670	DP-7	1043:25	1249:50	0	0		48.7	7670	DP-7	1043:25	1249:50	0	0
								3	57.5	7510	MF	1028	1217	132	244		57.5	7510	MF	1028	1217	132	244
								3	64.3	7410	DP-2	1031:15	1222:45	1305	525		64.3	7410	DP-2	1031:15	1222:45	1305	525
								3	69.9	7410	RR	1034	1231	900	606		69.9	7410	RR	1034	1231	900	606
								3	75.5	7420	RR	1037	1235	1810	1219		75.5	7420	RR	1037	1235	1810	1219
								3	82.1	7410	RR	1041	1230	1585	1068		82.1	7410	RR	1041	1230	1585	1068

y Measured dosage of 804 particles considered to be contamination.

z Assumed contamination subtracted from measured dosage of 44 particles.

Table 4 (continued). TOTAL DOSAGES AT SURFACE

June 4, 1964				Experiment No. 21				Tracer Release from Site B : 1030 to 1130 CST			
Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³				
4	311.5	2050	RR	1000	1138	35	24				
4	323.4	1940	MF	1004	1142	1,958	3,626				
4	341.0	2030	MF	1008	1147	6,397	11,847				
4	355.5	1910	MF	1010	1154	1,144	2,119				
4	355.5	1910	RR	1011	1152	4,853	3,269				
4	04.7	2020	DP-9	1017:05	1201:05	302 ^{a1}	124				
4	15.5	1870	MF	1015	1207	0	0				
4	27.6	1970	MF	1022	1212	0	0				
4	40.0	1930	RR	1024	1214	17	11				
4	50.6	1890	RR	1026	1216	23	15				
6	318.9	7640	RR	1044	1215	2,402	1,618				
6	322.7	8070	RR	1041	1219	7,539	5,079				
6	328.5	8060	RR	1038	1223	8,106	5,461				
6	335.4	7860	RR	1035	1227	6,531	4,400				
6	341.5	7920	DP-10	1028:10	1236:10	1,832	704				
6	349.5	7880	MF	1021	- ^{b1}	241	44				
6	334.9	8890	RR	1018	1254	- ^{c1}	-				
6	354.9	8890	MF	1016	1250	42	78				
6	01.3	8620	DP-5	1019:25	1217:54	- ^{d1}	-				
6	05.2	8340	MF	1025	1223	32	59				
6	09.3	8100	MF	1028	1230	70	130				
6	13.4	7920	RR	1030	1234	1,729	1,165				
6	18.2	8,370	DP-1	1035:40	1242:31	- ^{d1}	-				
6	23.9	8,160	RR	1049	1254	1,322	891				
6	31.3	8450	RR	1055	1301	361	243				
7	327.1	16,370	RR	1105	1340	3,171	2,136				
7	333.2	15,920	RR	1059	1332	687	463				
7	337.3	17,080	RR	1050	1327	381	257				
7	340.0	17,680	RR	1044	1320	234	158				
7	342.0	18,010	DP-7	1040:10	1313:46	1,042	417				
7	345.4	17,790	RR	1035	1310	291	196				
7	348.6	17,570	RR	1033	1305	341	230				
7	351.4	17,410	RR	1029	1300	274	184				
7	354.7	17,300	RR	1105	1328	467	315				
7	357.6	17,280	RR	1103	1326	505	340				

a¹ Assumed contamination subtracted from measured dosage of 2300 particles.

b¹ Power turned off at an unknown time by a person or persons unknown; adjustment in measured dosage considered unnecessary.

c¹ Measured dosage of 1714 particles considered to be contamination.

d¹ No data obtained; collector tapes damaged.

JUNE 4, 1964 Experiment No. 21 Tracer Release from Site B : 1030 to 1130 CST

(CONTINUED)

Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³
7	359.8	17,370	DP-3	1100:00	1319:35	- ^{d1}	-
7	03.3	17,340	RR	1058	1316	411	277
7	06.3	17,290	RR	1056	1314	410	276
7	09.4	17,330	RR	1054	1312	862	581
7	12.6	17,390	DP-2	1051:00	1303:05	- ^{d1}	-

Table 4 (continued). TOTAL DOSAGES AT SURFACE

June 6, 1964				Experiment No. 22				Tracer Release from Site A : 1130 to 1230 CST				June 7, 1964				Experiment No. 23				Tracer Release from Site A : 1132 to 1232 CST			
Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³
1	10.8	940	RR	1130	1313	247,187	167,098	1	4.0	940	RR	1120	1307	9	6	1	4.0	940	RR	1120	1307	9	6
1	14.4	950	RR	1130	1315	106,813	72,206	1	14.4	950	RR	1116	1311	20	13	1	14.4	950	RR	1116	1311	20	13
1	22.7	980	RR	1126	1307	50,836	34,365	1	22.7	980	RR	1110	1301	48	32	1	22.7	980	RR	1110	1301	48	32
1	29.6	930	DP-4	1121:43	1257:20	83,350	31,498	1	29.6	930	DP-4	1107:13	1256:13	5,202	1,966	1	29.6	930	DP-4	1107:13	1256:13	5,202	1,966
1	35.4	910	MF	1117	1303	5,795	10,732	1	35.4	910	MF	1105	1252	2,508	4,645	1	35.4	910	MF	1105	1252	2,508	4,645
1	41.1	980	RR	1116	1255	447	302	1	41.1	980	RR	1104	1250	28,749	19,144	1	41.1	980	RR	1104	1250	28,749	19,144
1	45.1	910	MF	1115	1251	8	15	1	45.1	910	MF	1103	1247	33,592	62,212	1	45.1	910	MF	1103	1247	33,592	62,212
1	51.7	820	DP-9	1113:27	1245:26	0	0	1	51.7	820	RR	1101	1245	161,334	107,432	1	51.7	820	RR	1101	1245	161,334	107,432
1	60.9	790	MF	1111	1242	10	18	1	60.9	790	MF	1057	1238	71,341	152,124	1	60.9	790	MF	1057	1238	71,341	152,124
1	68.9	850	RR	1111	1239	18	12	1	68.9	790	DP-9	1059:10	1238:10	452,870	186,356	1	68.9	790	DP-9	1059:10	1238:10	452,870	186,356
1	80.6	780	RR	1109	1236	4	3	1	68.9	850	RR	1057	1235	177,194	117,993	1	68.9	850	RR	1057	1235	177,194	117,993
2	0.2	3390	RR	1122	1323	3,661	2,475	2	00.2	3390	MF	1112	1320	14	26	2	00.2	3390	MF	1112	1320	14	26
2	5.4	3360	MF	1120	1318	1,184	2,193	2	05.4	3360	MF	1107	1315	4	7	2	05.4	3360	MF	1107	1315	4	7
2	11.9	3370	RR	1118	1316	6,370	4,306	2	11.9	3370	RR	1105	1313	1	1	2	11.9	3370	RR	1105	1313	1	1
2	18.5	3400	RR	1116	1313	3,392	2,293	2	18.5	3400	RR	1102	1310	0	0	2	18.5	3400	RR	1102	1310	0	0
2	23.0	3350	RR	1111	1309	305	206	2	23.0	3350	RR	1101	1304	1	1	2	23.0	3350	RR	1101	1304	1	1
2	31.6	3480	DP-10	1107:05	1301:05	0	0	2	28.0	3340	RR	1059	1307	7	5	2	28.0	3340	RR	1059	1307	7	5
2	28.0	3340	RR	1114	1307	17	11	2	31.6	3480	DP-10	1052:15	1258:05	0	0	2	31.6	3480	DP-10	1052:15	1258:05	0	0
2	36.9	3270	RR	1110	1257	6	4	2	36.9	3270	RR	1054	1259	90	60	2	36.9	3270	RR	1054	1259	90	60
2	42.9	3180	MF	1114	1301	2	4	2	42.9	3180	MF	1058	1302	591	1,095	2	42.9	3180	MF	1058	1302	591	1,095
2	48.7	3470	DP-1	1116:30	1312:32	0	0	2	48.7	3470	DP-5	1059:50	1309:30	4,929	1,902	2	48.7	3470	DP-5	1059:50	1309:30	4,929	1,902
2	53.6	3200	RR	1126	1320	1	1	2	53.6	3200	RR	1105	1315	5,362	3,570	2	53.6	3200	RR	1105	1315	5,362	3,570
2	60.2	3200	MF	1128	1323	2	4	2	60.2	3200	MF	1109	1318	4,025	7,454	2	60.2	3200	MF	1109	1318	4,025	7,454
2	65.4	3470	RR	1130	1330	4	3	2	65.4	3470	RR	1111	1325	4,134	2,753	2	65.4	3470	RR	1111	1325	4,134	2,753
2	72.3	3230	RR	1136	1338	0	0	2															
3	04.3	7910	RR	1121	1321	2,252	1,522	3	04.3	7910	RR	1129	1310	1	1	3	04.3	7910	RR	1129	1310	1	1
3	08.3	7430	DP-8	1125:30	1325:45	6,695	2,395	3	08.3	7430	DP-8	1131:10	1315:00	0	0	3	08.3	7430	DP-8	1131:10	1315:00	0	0
3	13.3	7220	RR	1130	1333	4,498	3,041	3	13.3	7220	RR	1134	1324	1	1	3	13.3	7220	RR	1134	1324	1	1
3	19.6	6980	DP-3	1132:50	1338:00	2,672	1,080	3	19.6	6980	RR	1127	1328	16	11	3	19.6	6980	RR	1127	1328	16	11
3	25.4	7230	MF	1125	1348	172	318	3	25.4	7230	RR	1140	- e1	1	1	3	25.4	7230	RR	1140	- e1	1	1
3	30.1	6920	DP-2	1132:10	1353:45	632	254	3	32.5	7710	DP-3	1144:15	1341:10	0	0	3	32.5	7710	DP-3	1144:15	1341:10	0	0
3	34.8	7610	MF	1129	1354	76	141	3	37.5	7740	RR	1130	1329	2	1	3	37.5	7740	RR	1130	1329	2	1
3	39.5	7650	RR	1141	1359	128	87	3	41.6	7610	DP-2	1125:10	1324:00	0	0	3	41.6	7610	DP-2	1125:10	1324:00	0	0
3	41.6	7610	DP-7	1117:21	1336:20	93	37	3	48.7	7670	RR	1122	1318	352	234	3	48.7	7670	RR	1122	1318	352	234
3	45.2	7590	RR	1119	1341	3	2	3	55.1	7610	RR	1120	1316	843	561	3	55.1	7610	RR	1120	1316	843	561
3	55.1	7610	RR	1114	1330	1	1	3	61.6	7590	RR	1115	1314	999	665	3	61.6	7590	RR	1115	1314	999	665
3	61.6	7590	RR	1112	1327	1	1	3	67.6	7390	RR	1114	1310	51	34	3	67.6	7390	RR	1114	1310	51	34
3	67.6	7390	RR	1108	1324	1	1	3															
3	72.5	7410	RR	1108	1320	0	0	3															

e1 Sampler ceased to operate at an unknown time; no adjustment to measured dosage considered necessary.

Table 4 (continued). TOTAL DOSAGES AT SURFACE

June 9, 1964			Experiment No. 24			Tracer Release from Site A : 1030 to 1130 CST			June 10, 1964			Experiment No. 25			Tracer Release from Site A : 1033 to 1133 CST		
Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³		Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	
1	4.0	940	RR	1029	1216	55,481	36,645		1	110.9	740	RR	1027	1313	88,468	58,433	
1	10.8	940	RR	1028	1214	101,978	67,356		1	122.1	680	RR	1026	1311	93,955	62,057	
1	19.5	970	RR	1022	1207	261,221	172,536		1	129.5	700	RR	1024	1308	52,635	34,765	
1	22.7	980	RR	1020	1204	221,170	146,083		1	137.9	670	MF	1022	1306	5,990	11,093	
1	29.6	930	DP-9	1015:36	1156:36	419,042	172,436		1	143.6	670	MF	1022	1303	1,263	2,339	
1	35.4	910	DP-4	1014:35	1150:35	238,731	90,216		1	147.8	630	RR	1021	1301	8,589 ^{g1}	5,673	
1	41.1	980	RR	1012	1147	15,086	9,964		1	154.5	600	DP-9	1018:44	1155:59	9,759 ^{g1}	4,016	
1	45.1	910	MF	1010	1143	1,732	3,208		1	161.4	590	RR	1019	1156	3,188	2,106	
1	51.7	820	MF	1009	1138	2,224	4,119		1	171.4	580	RR	1016	1151	252	166	
1	60.9	790	RR	1006	1135	928	613		1	182.5	500	RR	1016	1150	81	54	
2	00.2	3390	RR	1021	1219	0	0		1	191.1	650	MF	1014	1145	3	6	
2	05.4	3360	MF	1020	1214	12	22		2	116.0	3380	RR	1020	1340	7,487	4,945	
2	11.9	3370	RR	1019	1212	398	263		2	122.6	3080	RR	1022	1335	7,214	4,765	
2	18.5	3400	RR	1017	1208	6,769	4471		2	129.1	3180	MF	1018	1227	997	1,846	
2	23.0	3350	RR	1016	1206	11,906	7864		2	134.2	3230	RR	1016	1223	5,443	3,595	
2	31.6	3480	DP-10	1008:32	1156:22	23,096	8873		2	138.7	3320	DP-10	1012:11	1218:07	8,464	3,252	
2	28.0	3340	RR	1014	1203	14,706	9713		2	143.8	3250	RR	1006	1311	2,858	1,888	
2	36.9	3270	DP-1	1023:33	1214:05	4,472	1762		2	149.5	3280	RR	1004	1205	2,037	1,345	
2	42.9	3180	MF	1022	1208	15	28		2	154.1	3230	RR	1028	1201	1,223	808	
2	42.9	3180	RR	1021	1206	97	64		2	160.2	3180	DP-1	1003:10	1300:45	0	0	
2	48.7	3470	DP-5	1015:30	1158:46	0	0		2	167.0	3240	MF	1008	1209	6	11	
2	53.6	3200	RR	1012	1154	24	16		2	171.3	3240	MF	1008	1312	20	37	
2	60.2	3200	RR	1008	1150	9	6		2	178.0	3150	RR	1012	1319	3	2	
3	04.3	7910	RR	1002	1237	10	7		2	181.8	3370	RR	1015	1322	3	2	
3	08.3	7430	RR	1005	1232	1	1		3	113.5	6410	RR	1014	1330	4,718	3,116	
3	19.6	6980	DP-8	1012:25	1216:25	179 ^{f1}	64		3	119.9	6380	RR	1018	1337	4,449	2,939	
3	25.4	7230	MF	1016	1209	413	765		3	125.4	6370	RR	1022	1344	4,643	3,067	
3	32.5	7710	DP-3	1022:00	1200:00	1,349	545		3	131.4	6470	RR	1025	1349	3,414	2,255	
3	37.5	7740	MF	1009	1222	34	63		3	136.7	6250	DP-2	1027:35	1256:03	2,931	1,180	
3	37.5	7740	RR	1007	1226	54	36		3	142.0	6180	MF	1024	1404	417	772	
3	41.6	7610	DP-2	1012:10	1217:35	0	0		3	148.4	6660	RR	1021	1400	388	256	
3	48.7	7670	DP-7	1016:20	1210:40	0	0		3	156.1	6740	RR	1017	1356	42	28	
3	55.1	7610	RR	1021	1205	3	2		3	162.5	7210	DP-8	1006:15	1346:15	0	0	
3	61.6	7590	RR	1024	1200	2	1		3	168.4	7510	RR	1001	1341	7	8	
f ¹									3	175.5	7290	RR	0954	1336	8	5	
									3	184.8	7170	RR	0953	1330	3	2	

^{g1} Assumed contamination subtracted from the measured dosage of 11,411 particles.

Table 4 (continued). TOTAL DOSAGES AT SURFACE

June 11, 1964				Experiment No. 26				Tracer Release from Site B : 1035 to 1135 CST				October 10, 1964				Experiment No. 27 ^h				Tracer Release from Site B : 1130 to 1230 CST			
Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³
4	273.2	1860	RR	1004	1152	16,916	11,227	4	273.2	1860	RR	1117	1258	29	19	4	273.2	1860	RR	1117	1258	29	19
4	278.7	1850	RR	1006	1154	13,850	9,192	4	278.7	1850	RR	1116	1300	19	13	4	278.7	1850	RR	1116	1300	19	13
4	286.2	1880	MF	1008	1200	3,318	6,145	4	293.9	2000	MF	1112	1312			4	293.9	2000	MF	1112	1312		
4	293.9	2000	DP-9	1011:48	1204:44	5,598	2,304																
4	300.6	2020	RR	1014	1212	2,008	1,333																
4	307.2	1930	MF	1016	1215	124	230																
4	311.5	2050	RR	1024	1226	596	396																
4	315.6	2140	MF	1031	1241	3,234	5,989																
4	323.4	1940	DP-4	1026:46	1232:45	19,859	7,505																
4	332.1	1980	RR	1030	1238	9,093	6,035																
4	341.0	2030	RR	1032	1242	1,868	1,240																
6	269.3	7210	RR	1002	1210	622	413																
6	275.9	7220	RR	1004	1214	3,624	2,405																
6	280.6	7140	RR	1006	1216	737	489																
6	286.3	7200	DP-3	1009:15	1222:05	1,066	431																
6	291.9	7330	MF	1014	1231	636	1,178																
6	297.0	7490	DP-8	1016:06	1239:20	1,777	635																
6	302.3	7770	RR	1019	1248	831	552																
6	308.5	8230	RR	1008	1210	857	569																
6	316.0	7790	DP-2	1013:40	1217:25	2,346	944																
6	321.2	7930	MF	1018	1229	608	1,126																
6	322.7	8070	RR	1021	1236	892	592																
6	332.6	7980	RR	1025	1243	4,956	3,289																
6	339.0	7990	RR	1030	1246	4,227	2,805																
7	269.6	17,420	RR	1036	1325	12	8																
7	276.2	17,520	RR	1031	1319	17	11																
7	282.0	17,770	RR	1027	1315	29	19																
7	288.1	18,370	RR	1023	1311	51	34																
7	291.0	18,580	RR	1021	1308	87	58																
7	293.7	16,910	DP-10	1016:03	1300:01	266	102																
7	296.6	16,700	RR	1012	1254	358	238																
7	300.3	17,290	RR	1010	1249	382	254																
7	302.7	16,240	RR	1006	1250	581	386																
7	306.2	16,320	RR	1010	1254	77	502																
7	309.2	17,130	DP-1	1012:00	1257:51	1,689	665																
7	313.0	15,240	RR	1017	1305	791	525																
7	316.5	15,120	RR	1021	1308	743	493																
7	323.0	16,820	RR	1027	1316	969	643																
7	330.1	15,930	RR	1035	1324	1,000	664																

^h Tracer cloud appeared to completely miss the sampling arcs. The above samplers analyzed to verify this observation. On the basis of the results of this assessment, no further analysis made.

Table 4 (continued). TOTAL DOSAGES AT SURFACE

October 11, 1964				Experiment No. 28				Tracer Release from Site B: 1105 to 1205 CST				October 12, 1964				Experiment No. 29				Tracer Release from Site A: 2000 to 2100 CST			
Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³
4	307.2	1930	RR	1023	1307	2374	1576	1	29.6	930	RR	1921	2114	19	13	1	41.1	980	RR	1922	2111	1	1
4	311.5	2050	RR	1039	1305	2371	1939	1	80.6	780	RR	1932	2128	21	14	1	94.8	750	RR	1934	2130 ¹	7	5
4	315.6	2140	RR	1037	1301	5371	3565	1	105.7	770	DP-9	1936:00	2134:15	64	26	1	118.0	770	RR	1942	2143	26,729	17,655
4	323.4	1940	MF	1036	1257	1640	3037	1	129.5	700	RR	1944	2146	85,002	56,144	1	143.6	670	RR	1945	2151	48,207	31,841
4	332.1	1980	DP-9	1042:00	1231:34	7016	2887	1	154.4	600	RR	1948	2153	84,108	55,553	1	154.4	600	RR	1948	2153	84,108	55,553
4	341.0	2030	RR ¹	1046	1238	666	442	2	031.6	3480	RR	1936	2130	41	27	2	042.9	3180	RR	1933	2134	42	28
4	346.7	1970	RR	1054	1240	146	97	2	053.6	3200	RR	1931	2137	24	16	2	065.4	3470	DP-4	1926:05	2141:54	0	0
4	350.4	2010	RR	1048	1243	5	3	2	077.3	3270	MF	1920	2149	8	15	2	088.4	3070	RR	1946	2153	12	8
4	355.5	1910	MF	1050	1245	0	0	2	101.6	3150	DP-5	1949:00	2155:40	0	0	2	112.0	3110	RR	1957	2202	13	9
4	000.1	1930	RR	1052	1250	5	3	2	122.6	3080	RR	1957	2205	37	24	2	134.2	3230	RR	2000	2209	4	3
5	308.7	4150	RR	1031	1233	440	292	2	088.4	3070	RR	1946	2153	12	8	2	143.8	3250	RR	2003	2211	25	17
5	315.3	4050	RR	1033	1235	1376	913	2	101.6	3150	DP-5	1949:00	2155:40	0	0	2	034.8	7610	RR	2010	2247	2	1
5	321.2	4360	RR	1034	1239	2219	1473	2	041.6	7610	RR	2007	2245	18	12	3	048.7	7670	RR	2006	2242	1	1
5	324.7	4250	RR	1036	1240	2566	1703	2	055.1	7610	RR	2007	2240	0	0	3	061.6	7590	RR	1959	2237	1	1
5	330.7	4240	MF	1038	1243	552	1022	2	072.5	7410	MF	1948	2224	0	0	3	079.4	7430	MF	1945	2218	2	4
5	337.6	4120	DP-5	1043:14	1247:14	79	30	3	084.7	7240	MF	1938	2212	0	0	3	088.2	7240	RR	1930	2206	0	0
5	341.7	4220	RR	1048	1259	0	0	3	094.2	7040	DP-1	1959:45	2242:05	0	0	3	101.7	6880	MF	1952	2231	0	0
5	349.3	4310	RR	1050	1302	0	0	3	107.8	6580	RR	1951	2228	2	1	3	119.9	6380	RR	1946	2218	0	0
5	353.9	4250	DP-4	1053:45	1305:40	0	0	3	119.9	6380	RR	1946	2218	0	0	3	125.4	6370	RR	1940	2214	1	1
5	359.3	4090	RR	1102	1312	1	1	3	131.4	6470	RR	1937	2213	2	1	3	136.7	6250	RR	1936	2210	1	1
5	005.6	4250	RR	1102	1315	4	3	3	136.7	6180	RR	1934	2206	2	1	3	142.0	6180	RR	1934	2206	2	1
7	313.0	15240	RR	1051	1315	1537	1020	3	034.8	7610	RR	2010	2247	2	1	3	041.6	7610	RR	2007	2245	18	12
7	316.5	15120	RR	1055	1319	2134	1416	3	048.7	7670	RR	2006	2242	1	1	3	055.1	7610	RR	2007	2240	0	0
7	320.4	16320	RR	1058	1322	1916	1272	3	061.6	7590	RR	1959	2237	1	1	3	072.5	7410	MF	1948	2224	0	0
7	324.4	17150	DP-7	1103:28	1329:20	2,742	1097	3	079.4	7430	MF	1945	2218	2	4	3	084.7	7240	MF	1938	2212	0	0
7	327.1	16370	RR ¹	1109	1337	685	455	3	088.2	7240	RR	1930	2206	0	0	3	094.2	7040	DP-1	1959:45	2242:05	0	0
7	330.1	15930	RR	1111	1341	238	158	3	101.7	6880	MF	1952	2231	0	0	3	107.8	6580	RR	1951	2228	2	1
7	332.2	15920	RR	1114	1344	20	13	3	107.8	6580	RR	1951	2228	2	1	3	119.9	6380	RR	1946	2218	0	0
7	335.6	16280	RR	1117	1347	1	1	3	119.9	6380	RR	1946	2218	0	0	3	125.4	6370	RR	1940	2214	1	1
7	337.3	17080	RR	1121	1351	0	0	3	131.4	6470	RR	1937	2213	2	1	3	136.7	6250	RR	1936	2210	1	1
7	340.0	17680	RR	1122	1346	1	1	3	142.0	6180	RR	1934	2206	2	1	3	142.0	6180	RR	1934	2206	2	1
7	345.4	17790	RR	1115	1337	0	0	3	136.7	6180	RR	1934	2206	2	1	3	142.0	6180	RR	1934	2206	2	1
7	348.6	17570	RR	1113	1334	1	1	3	142.0	6180	RR	1934	2206	2	1	3	142.0	6180	RR	1934	2206	2	1
7	354.7	17300	RR	1108	1323	0	0	3	142.0	6180	RR	1934	2206	2	1	3	142.0	6180	RR	1934	2206	2	1
7	357.6	17280	RR	1105	1320	2	1	3	142.0	6180	RR	1934	2206	2	1	3	142.0	6180	RR	1934	2206	2	1
7	003.3	17340	RR	1102	1315	2	1	3	142.0	6180	RR	1934	2206	2	1	3	142.0	6180	RR	1934	2206	2	1

¹ Samplers dropped during removal at sampling site; not adjusted.

Table 4 (continued). TOTAL DOSAGES AT SURFACE

October 16, 1964				Experiment No. 30				Tracer Release from Site B : 2000 to 2100 CST				October 17, 1964				Experiment No. 31				Tracer Release from Site A : 1315 to 1415 CST			
Arc	Azimuth (deg.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (deg.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (deg.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³
4	293.9	2000	RR	1932	2122	0	0	1	4.0	940	RR	1256	1425	19,418	12,888	4	307.2	2140	RR	1256	1425	19,418	12,888
4	307.2	1930	RR	1934	2125	6	4	1	10.8	940	RR	1257	1426	8,145	5,406	4	315.6	2140	RR	1257	1426	8,145	5,406
4	315.6	2140	RR	1943	2134	26	17	1	14.4	950	RR	1259	1429	82	54	4	323.4	1940	RR	1259	1429	82	54
4	323.4	1940	DP-9	2009:00	2129:12	922	380	1	19.5	970	RR	1303	1434	33	22	4	332.1	1980	RR	1303	1434	33	22
4	332.1	1980	MF	1946	2138	391	724	1	22.7	980	RR	1303	1435	1	1	4	341.0	2030	RR	1303	1435	1	1
4	341.0	2030	MF	1948	2142	118	219	2	0.2	3390	MF	1259	1457	17	31	4	346.7	1970	MF	1259	1457	17	31
4	346.7	1970	RR	1949	2146	26	17	2	5.4	3360	MF	1255	1454	0	0	4	350.4	2010	MF	1255	1454	0	0
4	350.4	2010	RR	1950	2148	105	70	2	11.9	3370	RR	1255	1452	2	1	4	355.5	1910	RR	1255	1452	2	1
4	355.5	1910	DP-3	1951:30	2151:50	-31	-	3	1.9	7000	DP-8	1334:20	1552:15	0	0	4	001.0	1930	DP-8	1334:20	1552:15	0	0
4	001.0	1930	MF	1956	2200	2,334	4,323	3	8.3	7430	RR	1330	1545	2	1	4	008.9	1910	RR	1330	1545	2	1
4	008.9	1910	RR	1957	2203	9,191	6,100	3	30.1	6920	DP-7	1318:25	1530:22	0	0	4	020.8	1920	DP-7	1318:25	1530:22	0	0
4	020.8	1920	RR	1958	2204	16,223	10,767	6	334.9	3330	RR	1314	1521	1,125	747	5	296.1	4270	RR	1314	1521	1,125	747
5	296.1	4270	RR	1932	2145	0	0	6	349.9	3440	RR	1310	1515	551	366	5	308.7	4150	RR	1310	1515	551	366
5	308.7	4150	RR	1934	2150	0	0	6	355.8	3450	DP-4	1302:05	1505:03	162	61	5	321.2	4360	DP-4	1302:05	1505:03	162	61
5	321.2	4360	RR	1936	2153	0	0	7	343.2	13,100	RR	1334	1611	695	461	5	324.7	4250	RR	1334	1611	695	461
5	324.7	4250	DP-5	1938:00	2155:50	0	0	7	350.4	13,330	RR	1330	1606	28	19	5	330.7	4240	RR	1330	1606	28	19
5	330.7	4240	MF	1945	2200	16	30	7	354.7	13,210	RR	1328	1604	29	19	5	337.6	4120	RR	1328	1604	29	19
5	337.6	4120	MF	1948	2206	4	7	7	2.9	13,170	DP-10	1324:25	1556:88	0	0	5	341.7	4220	DP-10	1324:25	1556:88	0	0
5	341.7	4220	RR	1954	2213	1	1	7	9.4	13,480	RR-1	1319	1551	47	31	5	349.3	4310	RR-1	1319	1551	47	31
5	349.3	4310	RR	1955	2216	6	3	7	13.8	13,640	RR-1	1317	1548	82	54	5	353.9	4250	RR-1	1317	1548	82	54
5	353.9	4250	DP-4	1958:00	2221:20	0	0	7	17.6	13,760	RR-1	1314	1545	137	91	5	005.6	4250	RR-1	1314	1545	137	91
5	005.6	4250	RR	2006	2228	1,906	1,265	7	21.3	13,990	RR-1	1311	1543	170	113	5	017.0	4280	RR-1	1311	1543	170	113
5	017.0	4280	RR	2008	2230	8,155	5,412	7	25.1	14,250	DP-11	1307:30	1535:00	26	10	5	291.9	7330	DP-11	1307:30	1535:00	26	10
6	291.9	7330	RR ^{k1}	1949	2230	0	0	1 ¹	Part of each listed, measured dosage considered to be contamination; no satisfactory method discovered for adjusting dosages.							6	297.0	7490					
6	297.0	7490	RR ^{k1}	1954	2233	1	1	1 ¹								6	304.8	7910					
6	304.8	7910	RR ^{k1}	1957	2237	0	0	1 ¹								6	312.8	8020					
6	312.8	8020	RR ^{k1}	1960	2239	0	0	1 ¹								6	318.9	7640					
6	318.9	7640	MF ^{k1}	2004	2245	0	0	1 ¹								6	328.5	8060					
6	328.5	8060	MF ^{k1}	2015	2301	0	0	1 ¹								6	332.6	7980					
6	332.6	7980	MF ^{k1}	1902	2311	0	0	1 ¹								6	344.4	8100					
6	344.4	8100	RR ^{k1}	2025	2304	1	1	1 ¹								6	354.9	8890					
6	354.9	8890	RR ^{k1}	2017	2245	0	0	1 ¹								6	001.3	8620					
6	001.3	8620	MF ^{k1}	2012	2236	0	0	1 ¹								6	007.3	8220					
6	007.3	8220	RR ^{k1}	2010	2232	22	15	1 ¹								6	013.4	7920					
6	013.4	7920	RR ^{k1}	2008	2230	77	51	1 ¹								6	018.2	8370					
6	018.2	8370	RR ^{k1}	2004	2225	398	264	1 ¹								6	339.0	7990					
6	339.0	7990	RR ^{k1}	2029	2309	0	0	1 ¹								6							

11 Plastic rain cover left on intake orifice; no data obtained.

k¹ Samplers may have been turned off before the last elements of the tracer cloud reached them. No adjustments in the measured dosages were made since no significant losses of dosages were considered to have occurred.

Table 4 (continued). TOTAL DOSAGES AT SURFACE

October 19, 1964			Experiment No. 32			Tracer Release from Site A : 1945 to 2045			CST			October 20, 1964			Experiment No. 33			Tracer Release from Site A : 1915 to 2015			CST		
Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (d.g.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³
1	99.3	780	RR	1940	2131	5	3	1	4.0	940	RR	1907	2058	103	68	1	4.0	940	RR	1907	2058	103	68
1	110.9	740	MF	1938	2127	546	1,011	1	10.8	940	RR	1908	2100	37,389	24,774	1	10.8	940	RR	1908	2100	37,389	24,774
1	118.0	770	RR	1937	2125	60,152	39,857	1	14.4	950	RR	1910	2103	236,900	156,970	1	14.4	950	RR	1910	2103	236,900	156,970
1	122.1	680	RR	1936	2123	57,165	37,878	1	22.7	980	RR	1904	2054	156,560	103,737	1	22.7	980	RR	1904	2054	156,560	103,737
1	129.5	700	RR	1935	2122	83,018	55,008	1	29.6	930	MF	1901	2049	5,828	10,793	1	29.6	930	MF	1901	2049	5,828	10,793
1	137.9	670	DP-3	1933:30	2115:47	155,163	62,732	1	35.4	910	DP-3	1902:00	2043:45	4,718	1,907	1	35.4	910	DP-3	1902:00	2043:45	4,718	1,907
1	143.6	670	MF	1931	2111	39,620	73,376	1	41.1	980	RR	1857	2041	7	5	1	41.1	980	RR	1857	2041	7	5
1	147.8	630	RR	1930	2110	121,128	80,259	1	45.1	910	MF	1855	2039	8	15	1	45.1	910	MF	1855	2039	8	15
1	154.5	600	DP-9	1927:00	2103:55	243,557	100,224	1	51.7	820	RR	1854	2038	3	2	1	51.7	820	RR	1854	2038	3	2
1	161.4	590	RR	1925	2102	113,403	75,141	1	60.9	790	DP-9	1852:15	2035:20	0	0	1	60.9	790	DP-9	1852:15	2035:20	0	0
1	171.4	580	RR	1925	2101	90,228	59,785	1	68.9	850	MF	1851	2029	0	0	1	68.9	850	MF	1851	2029	0	0
1	182.5	600	RR	1924	2100	9,897	6,558	1	80.6	780	RR	1848	2027	0	0	1	80.6	780	RR	1848	2027	0	0
2	106.8	3190	RR	1918	2200	0	0	2	5.4	3360	RR	1913	2114	1	1	2	5.4	3360	RR	1913	2114	1	1
2	116.0	3380	MF	1920	2155	2	4	2	11.9	3370	RR	1912	2112	0	0	2	11.9	3370	RR	1912	2112	0	0
2	122.6	3080	DP-4	1926:35	2143:30	905	342	2	18.5	3400	RR	1910	2109	391	259	2	18.5	3400	RR	1910	2109	391	259
2	129.1	3180	RR	1930	2137	8,123	5,382	2	23.0	3350	RR	1908	2108	52,736	34,943	2	23.0	3350	RR	1908	2108	52,736	34,943
2	134.2	3230	RR	1931	2136	11,475	7,603	2	31.6	3480	DP-5	1908:05	2106:45	2,171	1,439	2	31.6	3480	DP-5	1908:05	2106:45	2,171	1,439
2	138.7	3320	DP-5	1934:00	2129:40	18,466	7,124	2	28.0	3340	RR	1908	2107	21	14	2	28.0	3340	RR	1908	2107	21	14
2	143.8	3250	RR	1940	2126	9,577	6,346	2	36.9	3270	RR	1902	2053	0	0	2	36.9	3270	RR	1902	2053	0	0
2	149.5	3280	RR	1939	2123	6,238	4,133	2	42.9	3180	MF	1900	2055	0	0	2	42.9	3180	MF	1900	2055	0	0
2	154.1	3230	RR	1945	2121	9,555	6,331	2	53.6	3200	RR	1852	2043	0	0	2	53.6	3200	RR	1852	2043	0	0
2	160.2	3180	DP-12	1947:00	2110:03	18,897	7,954	2	60.2	3200	RR	1852	2041	2	1	2	60.2	3200	RR	1852	2041	2	1
2	167.0	3240	RR	1950	2106	1,693	1,122	2	72.3	3230	RR	1848	2035	0	0	2	72.3	3230	RR	1848	2035	0	0
2	178.0	3150	RR	1955	2102	1	1	2	8.3	7430	RR	1926	2143	5	3	2	8.3	7430	RR	1926	2143	5	3
3	104.8	6810	RR	1928	2128	1	1	3	13.3	7220	RR	1924	2141	2,946	1,952	3	13.3	7220	RR	1924	2141	2,946	1,952
3	110.8	6490	RR	1930	2130	1	1	3	19.6	6980	DP-8	1917:10	2132:33	54,558	19,504	3	19.6	6980	DP-8	1917:10	2132:33	54,558	19,504
3	123.0	6360	MF	1940	2143	2	4	3	22.6	7190	RR	1915	2127	9,513	6,303	3	22.6	7190	RR	1915	2127	9,513	6,303
3	119.9	6380	RR	1942	2148	0	0	3	25.4	7230	RR	1910	2123	430	285	3	25.4	7230	RR	1910	2123	430	285
3	128.5	6670	MF	1948	2154	654	1,211	3	30.1	6920	RR	1912	2124	1	1	3	30.1	6920	RR	1912	2124	1	1
3	125.4	6370	RR	1946	2151	49	32	3	34.8	7610	MF	1902	2108	0	0	3	34.8	7610	MF	1902	2108	0	0
3	131.4	6470	MF	1950	2157	647	1,198	3	37.5	7740	RR	1901	2105	2	1	3	37.5	7740	RR	1901	2105	2	1
3	133.7	6410	RR	1953	2200	5,861	3,883	3	39.5	7650	RR	1925	2127	9	6	3	39.5	7650	RR	1925	2127	9	6
3	136.7	6250	DP-7	1956:34	2204:30	12,787	5,115	3	41.6	7610	MF	1923	2124	0	0	3	41.6	7610	MF	1923	2124	0	0
3	142.0	6180	MF	1949	2158	798	1,478	3	45.2	7590	RR	1921	2122	10	7	3	45.2	7590	RR	1921	2122	10	7
3	145.0	6380	MF	1947	2154	612	1,133	3	52.3	7490	RR	1917	2114	7	5	3	52.3	7490	RR	1917	2114	7	5
3	152.2	6780	MF	1943	2145	452	837	3	55.1	7610	RR	1914	2112	2	1	3	55.1	7610	RR	1914	2112	2	1
3	148.4	6660	RR	1945	2150	1,206	799	3	57.6	7510	RR	1913	2110	44	29	3	57.6	7510	RR	1913	2110	44	29
3	156.1	6740	RR	1939	2143	2,466	1,634	3	64.3	7410	RR	1911	2110	3	2	3	64.3	7410	RR	1911	2110	3	2
3	165.1	7450	RR	2032	2131	408	270	3	69.9	7410	RR	1909	2107	1	1	3	69.9	7410	RR	1909	2107	1	1
3	172.5	7450	RR	2028	2128	4	3	3	75.5	7420	RR	1907	2105	1	1	3	75.5	7420	RR	1907	2105	1	1

Table 4 (continued). TOTAL DOSAGES AT SURFACE

October 21, 1964			Experiment No. 34			Tracer Release from Site A :1920 to 2020 CST			March 6, 1965			Experiment No. 35			Tracer Release from Site A :1230 to 1330 CST		
Arc	Azimuth (d:U)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³		Arc	Azimuth (d:U)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	
1	143.6	670	MF	1905	2031	2	4		1	110.9	740	MF	1215	1400	3,990m ¹	7,389	
1	147.8	630	RR	1905	2030	32	21		1	118.0	770	RR	1212	1357	131,718	87,276	
1	154.5	600	DP-9	1902:20	2048:30	0	0		1	122.1	680	RR	1211	1355	81,577	54,053	
1	161.4	590	RR	1902	2029	41	27		1	129.5	700	RR	1210	1353	5,768	3,822	
1	171.4	580	RR	1901	2028	2353	1559		1	137.9	670	DP-4 ⁿ¹	1206:00	1347:35	22,000	8,310	
1	182.5	600	RR	1900	2027	83,334	55,217		1	143.6	670	MF	1203	1343	0	0	
2	143.8	3250	RR	1906	2054	24	16		1	147.8	630	RR	1202	1341	11	7	
2	149.5	3280	RR	1904	2051	1	1		1	154.5	600	MF	1201	1338	94	174	
2	154.1	3230	RR	1901	2019	0	0		1	161.4	590	RR	1146	1336	7	5	
2	167.0	3240	RR	1849	2037	3	2		1	171.4	580	RR	1145	1334	6	4	
2	178.0	3150	RR	1853	2034	153	101		1	182.5	600	RR	1143	1333	6	4	
3	152.2	6780	MF	1906	2105	0	0		2	116.0	3380	MF	1146	1430	3,748	6,941	
3	148.4	6660	RR	1904	2106	4	3		2	122.6	3080	MF	1150	1424	3,050	5,649	
3	156.1	6740	RR	1908	2111	4	3		2	129.1	3180	RR	1152	1421	3	2	
3	162.5	7210	RR	1914	2121	2	1		2	134.2	3230	RR	1153	1419	2	1	
3	168.4	7510	RR	1918	2124	8	5		2	143.8	3250	RR	1206	1406	3	2	
3	175.5	7290	RR	1926	2127	0	0		2	149.5	3280	RR	1204	1403	4	3	
3	184.8	7170	RR	1930	2130	580	384		2	154.1	3230	RR	1210	1359	184	122	
									2	167.0	3240	RR	1219	1349	3	2	
									2	178.0	3150	RR	1224	1345	4	3	
									3	113.5	6410	RR	1154	1412	6,100	4,042	
									3	119.9	6380	RR	1157	1415	4,896	3,244	
									3	123.0	6360	RR	1160	1417	835	553	
									3	125.4	6370	RR	1200	1421	0	0	
									3	128.5	6670	RR	1202	1424	1	1	
									3	133.7	6410	RR	1207	1432	3	2	
									3	139.2	6160	RR	1209	1444	0	0	
									3	142.0	6180	RR	1153	1405	1	1	
									3	148.4	6660	RR	1202	1417	5	3	
									3	152.2	6780	RR	1203	1420	6	4	
									3	156.1	6740	RR	1205	1422	10	7	
									3	162.5	7210	RR	1213	1431	2	1	
									3	172.5	7460	RR	1218	1438	1	1	
									3	168.4	7510	RR	1216	1435	5	3	

m¹ Measured dosage of 1294 particles adjusted; plastic cover left on.

n¹ Sampler operated improperly until about 1302 CST; adjustment to the measured dosage considered unnecessary.

Table 4 (continued). TOTAL DOSAGES AT SURFACE

March 7, 1965				Experiment No. 36				Tracer Release from Site A : 1230 to 1330 CST				March 8, 1965				Experiment No. 37				Tracer Release from Site A : 2030 to 2130 CST			
Arc	Azimuth (d.°)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (d.°)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (d.°)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³
1	122.1	680	RR	1135	1355	23,039	15,266	1	99.3	780	RR	2014	2202	99,036	65,621	1	99.3	780	RR	2014	2202	99,036	65,621
1	129.5	700	RR	1134	1354	32,005	21,207	1	105.7	770	MF	2012	2200	160,680	297,579	1	105.7	770	MF	2012	2200	160,680	297,579
1	137.9	670	MF	1133	1351	10,558	19,553	1	110.9	740	DP-4	2008:50	2154:44	1,334,543	504,324	1	110.9	740	DP-4	2008:50	2154:44	1,334,543	504,324
1	143.6	670	MF	1130	1347	25,923	48,009	1	118.0	770	RR	2009	2155	9,213	6,105	1	118.0	770	RR	2009	2155	9,213	6,105
1	147.8	630	RR	1129	1346	91,030	60,316	1	122.1	680	RR	2007	2150	5,672	3,758	1	122.1	680	RR	2007	2150	5,672	3,758
1	154.5	600	DP-4	1202:00	1341:09	124,199	82,294	1	129.5	700	RR	2006	2148	49	32	1	129.5	700	RR	2006	2148	49	32
1	161.4	590	RR	1128	1339	75,522	50,041	1	143.6	670	MF	1959	2141	0	0	1	143.6	670	MF	1959	2141	0	0
1	171.4	580	RR	1126	1338	4,768	3,159	1	147.8	630	RR	1958	2140	6	4	1	147.8	630	RR	1958	2140	6	4
1	182.5	600	RR	1125	1337	56	37	1	154.5	600	RR	1956	2135	27	18	1	154.5	600	RR	1956	2135	27	18
1	191.1	650	RR	1124	1335	1,747	1,158	1	154.5	600	MF	1957	2137	16	30	1	154.5	600	MF	1957	2137	16	30
2	129.1	3180	RR	1200	1427	4,166	2,760	2	101.6	3150	RR	2023	2225	12,767	8,459	2	101.6	3150	RR	2023	2225	12,767	8,459
2	134.2	3230	RR	1158	1425	1,170	2,167	2	112.0	3110	RR	2024	2221	558	1,033	2	112.0	3110	RR	2024	2221	558	1,033
2	138.7	3320	MF	1156	1422	2,883	1,910	2	116.0	3080	MF	2019	2216	0	0	2	116.0	3080	MF	2019	2216	0	0
2	143.8	3250	RR	1151	1418	2,490	1,650	2	122.6	3180	DP-10	2013:18	2209:05	1	1	2	122.6	3180	DP-10	2013:18	2209:05	1	1
2	149.5	3280	RR	1148	1416	3,402	2,254	2	129.1	3180	RR	2012	2206	3	2	2	129.1	3180	RR	2012	2206	3	2
2	154.1	3230	RR	1145	1413	9,576	3,679	2	134.2	3230	RR	2011	2204	2	1	2	134.2	3230	RR	2011	2204	2	1
2	160.2	3180	DP-10	1139:54	1406:49	1,024	1,896	2	143.8	3250	RR	2002	2153	2	1	2	143.8	3250	RR	2002	2153	2	1
2	167.0	3240	MF	1137	1402	940	1,741	2	149.5	3280	RR	2000	2150	2	1	2	149.5	3280	RR	2000	2150	2	1
2	171.3	3240	MF	1136	1359	2	1	2	154.1	3230	RR	1953	2147	2	1	2	154.1	3230	RR	1953	2147	2	1
2	181.8	3370	RR	1208	1355	52	34	2	167.0	3240	RR	1955	2145	0	0	2	167.0	3240	RR	1955	2145	0	0
3	125.4	6370	RR	1202	1421	42	28	3	101.7	6880	RR	2016	2205	61	40	3	101.7	6880	RR	2016	2205	61	40
3	131.4	6470	RR	1207	1423	1,534	1,016	3	107.8	6580	RR	2019	2207	11,149	7,387	3	107.8	6580	RR	2019	2207	11,149	7,387
3	136.7	6250	RR	1209	1425	1,504	997	3	110.8	6490	RR	2020	2209	11,923	7,900	3	110.8	6490	RR	2020	2209	11,923	7,900
3	139.2	6160	RR	1210	1428	302	200	3	113.5	6410	RR	2021	2211	3,845	2,548	3	113.5	6410	RR	2021	2211	3,845	2,548
3	142.0	6180	RR	1211	1430	881	315	3	116.7	6410	DP-8	2036:35	2212:22	1,408	503	3	116.7	6410	DP-8	2036:35	2212:22	1,408	503
3	145.0	6380	DP-8	1212:30	1431:57	737	488	3	119.9	6380	RR	2027	2216	9	6	3	119.9	6380	RR	2027	2216	9	6
3	148.4	6660	RR	1217	1440	1,609	1,066	3	123.0	6360	RR	2028	2218	1	1	3	123.0	6360	RR	2028	2218	1	1
3	152.2	6780	RR	1218	1442	2,250	1,491	3	124.5	6370	RR	2030	2219	3	2	3	124.5	6370	RR	2030	2219	3	2
3	156.1	6740	RR	1220	1444	3	2	3	131.4	6470	RR	2007	2205	11	7	3	131.4	6470	RR	2007	2205	11	7
3	159.3	6960	DP-7	1202:00	1418:22	1,940	1,285	3	133.7	6410	RR	2009	2207	0	0	3	133.7	6410	RR	2009	2207	0	0
3	162.5	7210	RR	1207	1424	1,979	1,311	3	136.7	6250	RR	2010	2209	1	1	3	136.7	6250	RR	2010	2209	1	1
3	165.1	7450	RR	1208	1426	598	396	3	139.2	6160	RR	2040	2210	2	1	3	139.2	6160	RR	2040	2210	2	1
3	168.4	7510	RR	1211	1429	164	109	3	142.0	6180	RR	2013	2210	1	1	3	142.0	6180	RR	2013	2210	1	1
3	172.5	7460	RR	1213	1431	3	2	3	152.2	6780	RR	2024	2224	0	0	3	152.2	6780	RR	2024	2224	0	0
3	175.5	7290	RR	1214	1433	24	16	3	148.4	6660	RR	2022	2222	1	1	3	148.4	6660	RR	2022	2222	1	1
3	184.8	7170	RR	1223	1439	5	3	3	159.3	6960	RR	2026	2226	1	1	3	159.3	6960	RR	2026	2226	1	1
3	179.1	7290	RR	1216	1436	3	3	3	165.1	7450	RR	2028	2229	0	0	3	165.1	7450	RR	2028	2229	0	0

o¹ Measured dosage of 1936 particles disregarded; plastic rain cover blew over the air intake orifice at an unknown time.

p¹ Measured dosage of 998 particles disregarded; sampler seemed to be operating improperly.

q¹ Measured dosage of 3562 particles disregarded; collector rod damaged during removal at sampling site.

Table 4 (continued). TOTAL DOSAGES AT SURFACE

March 11, 1965				Experiment No. 38				Tracer Release from Site A : 2030 to 2130 CST				March 13, 1965				Experiment No. 39				Tracer Release from Site A : 1220 to 1320 CST			
Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³
1	4.0	940	RR	2020	2212	1	1	1	60.9	790	RR	1154	1334	18	12	1	60.9	790	RR	1154	1334	18	12
1	14.4	950	RR	2021	2214	0	0	1	68.9	850	DP-3	1156:00	1337:53	132	53	1	68.9	850	DP-3	1156:00	1337:53	132	53
1	22.7	980	RR	2017	2210	18	12	1	75.4	870	RR	1158	1343	226	150	1	75.4	870	RR	1158	1343	226	150
1	29.6	930	MF	2015	2205	2	4	1	80.6	780	RR	1159	1346	7,089	4,705	1	80.6	780	RR	1159	1346	7,089	4,705
1	35.4	910	DP-4	2012:55	2158:10	- r ¹	-	1	87.4	800	MF	1202	1347	1,168	2,163	1	87.4	800	MF	1202	1347	1,168	2,163
1	41.1	980	RR	2012	2156	5	3	1	99.3	780	RR	1203	1350	6,593	4,376	1	99.3	780	RR	1203	1350	6,593	4,376
1	45.1	910	MF	2011	2154	2	4	1	105.7	770	MF	1207	1352	1,825	3,380	1	105.7	770	MF	1207	1352	1,825	3,380
1	51.7	820	RR	2010	2153	12	8	1	110.9	740	DP-4	1209:00	1355:38	10,853	4,101	1	110.9	740	DP-4	1209:00	1355:38	10,853	4,101
1	68.9	850	RR	2006	2146	8	5	1	118.0	770	RR	1211	1408	17,023	11,298	1	118.0	770	RR	1211	1408	17,023	11,298
1	80.6	780	RR	2004	2142	69	45	1	122.1	680	RR	1212	1401	13,390	8,887	1	122.1	680	RR	1212	1401	13,390	8,887
2	11.9	3370	RR	2030	2220	1	1	1	129.5	700	RR	1212	1403	36,313 ¹	24,101	1	129.5	700	RR	1212	1403	36,313 ¹	24,101
2	18.5	3400	RR	2049	2222	0	0	1	137.7	670	RR	1213	-	-	-	1	137.7	670	RR	1213	-	-	-
2	28.0	3340	RR	2027	2217	1	0	2	60.2	3200	RR	1205	1442	170	113	2	60.2	3200	RR	1205	1442	170	113
2	36.9	3270	RR	2019	2208	0	0	2	72.3	3230	RR	1203	1438	358	238	2	72.3	3230	RR	1203	1438	358	238
2	42.9	3180	MF	2009	2100	- s ¹	-	2	83.9	3150	RR	1208	1434	2,153	1,429	2	83.9	3150	RR	1208	1434	2,153	1,429
2	53.6	3200	RR	2006	2227	0	0	2	88.4	3070	DP-12	1157:40	1425:22	9,387	3,951	2	88.4	3070	DP-12	1157:40	1425:22	9,387	3,951
2	60.2	3200	MF	2004	2229	2	4	2	95.0	2980	RR	1209	1432	2,938	1,950	2	95.0	2980	RR	1209	1432	2,938	1,950
2	65.4	3470	RR	2002	2234	1	1	2	106.8	3190	RR	1211	1418	5,968	3,961	2	106.8	3190	RR	1211	1418	5,968	3,961
2	77.3	3270	RR	1958	2238	0	0	2	116.0	3380	DP-10	1213:34	1412:39	16,233	6,237	2	116.0	3380	DP-10	1213:34	1412:39	16,233	6,237
3	11.3	7420	RR	2020	2216	1	1	2	122.6	3080	MF	1219	1407	4,253	7,877	2	122.6	3080	MF	1219	1407	4,253	7,877
3	17.4	7240	RR	2023	2217	0	0	2	129.1	3180	RR	1220	1357	6,940	4,606	2	129.1	3180	RR	1220	1357	6,940	4,606
3	22.6	7190	RR	2024	2220	3	2	2	138.7	3320	RR	1221	1355	5,683	3,772	2	138.7	3320	RR	1221	1355	5,683	3,772
3	25.4	7230	RR	2025	2221	0	0	2	149.5	3280	RR	1225	1420	3,226	2,141	2	149.5	3280	RR	1225	1420	3,226	2,141
3	30.1	6920	RR	2026	2224	1	1	3	61.6	7590	RR	1212	1443	36u ¹	24	3	61.6	7590	RR	1212	1443	36u ¹	24
3	32.5	7710	RR	2035	2225	1	1	3	67.6	7390	RR	1214	1445	60u ¹	40	3	67.6	7390	RR	1214	1445	60u ¹	40
3	37.5	7740	RR	2039	2235	0	0	3	72.5	7410	RR	1217	1446	114u ¹	77	3	72.5	7410	RR	1217	1446	114u ¹	77
3	39.5	7650	RR	2041	2236	0	0	3	75.5	7420	RR	1219	1449	583u ¹	387	3	75.5	7420	RR	1219	1449	583u ¹	387
3	45.2	7590	RR	2036	2235	1	1	3	79.4	7430	RR	1221	1450	790u ¹	524	3	79.4	7430	RR	1221	1450	790u ¹	524
3	48.7	7670	RR	2034	2233	0	0	3	84.7	7240	DP-1	1231:50	1454:50	1887u ¹	743	3	84.7	7240	DP-1	1231:50	1454:50	1887u ¹	743
3	52.3	7490	RR	2032	2231	0	0	3	90.9	7130	RR	1236	1501	1656u ¹	1096	3	90.9	7130	RR	1236	1501	1656u ¹	1096
3	57.6	7510	RR	2031	2229	0	0	3	94.2	7040	RR	1238	1503	1785u ¹	1182	3	94.2	7040	RR	1238	1503	1785u ¹	1182
3	64.3	7410	RR	2029	2227	0	0	3	97.8	6910	DP-8	1240:30	1506:05	3445u ¹	1237	3	97.8	6910	DP-8	1240:30	1506:05	3445u ¹	1237
3	69.9	7410	RR	2027	2225	0	0	3	104.8	6810	RR	1205	1511	-v ¹	-	3	104.8	6810	RR	1205	1511	-v ¹	-
3	75.5	7420	RR	2025	2222	1	1	3	101.7	6880	RR	1205	1510	1,743	1,157	3	101.7	6880	RR	1205	1510	1,743	1,157
s ¹ Power mistakenly turned off at about 2100 CST; owing to the sparsity of data obtained, no adjustment made to the measured dosage of 18 particles.																3	110.8	6490	RR	1205	1510	1,492	990
r ¹ Measured dosage of 2064 particles considered to be contamination.																3	116.7	6410	DP-2	1210	1442	839	338
																3	123.0	6360	RR	1218	1454	246	163
																3	119.9	6380	RR	1218	1453	340	226

Table 4 (continued). TOTAL DOSAGES AT SURFACE

March 13, 1965				Experiment No. 39				Tracer Release from Site A :1220 to1320 CST				March 14, 1965				Experiment No. 40				Tracer Release from Site A:1100 to 1200 CST			
(CONTINUED)																							
Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³
3	128.5	6670	DP-7	1223:00	1501:11	0	0	1	87.4	800	RR	1050	1228	196	134								
3	125.4	6370	RR	1220	1456	92	61	1	99.3	780	RR	1049	1227	22,714	15,561								
3	131.4	6470	RR	1224	1506	10	7	1	105.7	770	RR	1048	1224	38,352	26,275								
3	133.7	6410	RR	1230	1507	21	14	1	110.9	740	DP-4	1045:25	1220:37	294,828	111,416								
3	139.2	6160	RR	1232	1509	18	12	1	118.0	770	RR	1042	1219	96,917	66,398								
3	145.0	6380	RR	1235	1512	1	1	1	122.1	680	RR	1041	1217	101,357	69,440								
								1	129.5	700	RR	1040	1216	25,338	17,359								
								1	137.9	670	RR	1039	1215	17,271	11,832								
								1	143.6	670	DP-5	1036:10	1210:55	3,575	1,379								
								1	147.8	630	RR	1035	1209	503	345								
								1	154.5	600	MF	1034	1207	0	0								
								1	171.4	580	RR	1033	1205	5	3								
								2	95.0	2980	RR	1102	1249	8	5								
								2	112.0	3110	RR	1103	1246	4,526	3,101								
								2	106.8	3190	RR	1100	1243	1,475	1,011								
								2	116.0	3380	DP-12	1054:09	1237:49	8,936	3,761								
								2	122.6	3080	MF	1052	1232	1,535w1	2870								
								2	129.1	3180	RR	1050	1230	2,990	2,048								
								2	134.2	3230	RR	1049	1228	832	570								
								2	138.7	3320	DP-10	1044:45	1224:05	1,252	481								
								2	143.8	3250	RR	1041	1219	203	139								
								2	149.5	3280	RR	1039	1217	4	3								
								2	160.2	3180	RR	1037	1215	2	1								
								3	97.8	6910	RR	1055	1235	2	1								
								3	104.8	6810	RR	1056	1238	11	8								
								3	110.8	6490	RR	1058	1242	535	367								
								3	107.8	6580	RR	1057	1241	312	214								
								3	113.5	6410	RR	1059	1245	1,579	1,082								
								3	116.7	6410	DP-8	1100:15	1245:15	6,866	2,455								
								3	119.9	6380	RR	1102	1254	1,907	1,306								
								3	128.5	6670	DP-7	1033:00	1238:12	2,503	1,001								
								3	124.5	6370	RR	1102	1255	1,559	1,068								
								3	131.4	6470	RR	1038	1243	543	372								
								3	133.7	6410	RR	1039	1244	5	3								
								3	136.7	6250	DP-2	1040:00	1247:45	0	0								
								3	139.2	6160	RR	1045	1254	9	6								
								3	142.0	6180	RR	1046	1255	0	0								
								3	145.0	6380	RR	1048	1257	0	0								
								3	148.4	6660	RR	1049	1259	1	1								

Measured dosage of 442 particles adjusted; plastic dust cap left on.

w1 Measured dosage of 442 particles adjusted; plastic dust cap left on.

Table 4 (continued). TOTAL DOSAGES AT SURFACE

March 15, 1965			Experiment No. 41x ¹			Tracer Release from Site A : 2050 to 2150 CST		
Arc	Azimuth (d.u.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	
1	110.9	740	DP-8	2049:30	2224:15	11,302	4,040	
1	118.0	770	RR	2047	2222	10,951	7,503	
1	122.1	680	RR	2046	2220	15,043	10,306	
1	129.5	700	RR	2045	2218	21,321	14,607	
1	137.9	670	RR	2044	2215	75,017	51,394	
1	143.6	670	DP-1	2036:00	2212:00	455,073	179,299	
1	154.5	600	RR	2035	2209	157,267	107,744	
1	161.4	590	RR	2034	2207	142,978	97,954	
1	171.4	580	RR	2032	2205	124,199	85,089	
1	182.5	600	RR	2032	2202	122,214	83,729	
2	088.4	3070	RR	2026	2319	72	49	
2	101.6	3150	RR	2028	2315	16	11	
2	112.0	3110	MF	2031	2309	14	26	
2	116.0	3380	MF	2034	2307	2	4	
2	122.6	3080	MF	2037	2301	0	0	
2	129.1	3180	RR	2040	2258	14	10	
2	134.2	3230	RR	2042	2255	110	75	
2	138.7	3320	DP-10	2047:00	2248:55	0	0	
2	143.8	3250	RR	2051	2241	30x ¹	21	
2	149.5	3280	RR	2055	2240	5630x ¹	3870	
2	154.1	3230	RR	2109	2236	-y ¹	-	
2	160.2	3180	DP-12	2103:37	2233:37	53,800x ¹	22,600	
2	167.0	3240	RR	2106	2223	49,700x ¹	34,000	
2	171.3	3240	RR	2110	2221	39,600	27,100	
3	101.7	6880	RR	2054	2252	1	1	
3	104.8	6810	RR	2055	2253	0	0	
3	110.8	6490	RR	2057	2255	0	0	
3	113.5	6410	DP-4	2100:00	2256:50	- z ¹	-	
3	116.7	6410	RR	2101	2302	2	1	
3	123.0	6360	RR	2103	2305	0	0	
3	119.9	6380	RR	2102	2303	0	0	
3	128.5	6670	DP-2	2109:45	2308:32	0	0	
3	125.4	6370	RR	2107	2306	1	1	
3	131.4	6470	RR	2112	2312	0	0	
3	133.7	6410	RR	2113	2313	0	0	
3	136.7	6250	RR	2033	2255	0	0	
3	142.0	6180	RR	2033	2256	0	0	
3	145.0	6380	DP-7	2035:00	2258:01	0	0	
3	152.2	6780	RR	2042	2305	0	0	

March 15, 1965			Experiment No. 41x ¹			Tracer Release from Site A : 2050 to 2150 CST		
Arc	Azimuth (d.u.)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	
3	148.4	6660	RR	2040	2304	0	0	
3	156.1	6740	RR	2043	2307	2	1	
3	159.3	6960	DP-5	2044:00	2309:30	0	0	
3	162.5	7210	RR	2049	2313	17	13	
3	165.1	7450	RR	2051	2315	705	484	
3	172.5	7460	RR	2054	2318	24,500	16,800	
<hr/>								
x ¹	All samplers probably turned off before entire tracer cloud reached them; loss in dosage considered to be significant only for specific samplers on arcs 2 and 3; the measured dosages of 17, 2868, 23673, 14546, 10, 567, 4, 188, and 7519 particles, respectively, were adjusted primarily on the basis of observed, sequential dosage patterns on drum-pulsed samplers. A tracer cloud of 75 minutes duration and a constant travel speed were assumed. Measured dosages were then multiplied by 75/8, where (8) is time in minutes samplers operated during tracer cloud passage, to yield adjusted dosages; tracer cloud assumed to reach arcs 2 and 3 at 2300 and 2355 CST respectively.							
y ¹	Sampler damaged during operation; measured dosage of 270 particles disregarded.							
z ¹	Measured dosage of 1076 particles considered to be contamination.							

x¹ All samplers probably turned off before entire tracer cloud reached them; loss in dosage considered to be significant only for specific samplers on arcs 2 and 3; the measured dosages of 17, 2868, 23673, 14546, 10, 567, 4, 188, and 7519 particles, respectively, were adjusted primarily on the basis of observed, sequential dosage patterns on drum-pulsed samplers. A tracer cloud of 75 minutes duration and a constant travel speed were assumed. Measured dosages were then multiplied by 75/8, where (S) is time in minutes. Samplers operated during tracer cloud passage, to yield adjusted dosages; tracer cloud assumed to reach arcs 2 and 3 at 2300 and 2355 CST respectively.

y¹ Sampler damaged during operation; measured dosage of 270 particles disregarded.

z¹ Measured dosage of 1076 particles considered to be contamination.

Table 4 (continued). TOTAL DOSAGES AT SURFACE

March 16, 1965			Experiment No. 42			Tracer Release from Site B: 2030 to 2130 CST			March 16, 1965			Experiment No. 42			Tracer Release from Site B: 2030 to 2130 CST		

Table 4 (continued). TOTAL DOSAGES AT SURFACE

March 17, 1965			Experiment No. 43			Tracer Release from SiteA : 2000to 2100 CST			March 17, 1965			Experiment No. 43			Tracer Release from Site A:2000 to 2100 CST		
Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part./m ³	X Part./m ³		Arc	Azimuth (deg)	R(m)	Sampler Type	Time On (CST)	Time Off (CST)	Dosage Part.	X Part./m ³	
1	75.4	870	RR	1934	2103	3,469	2,377		3	119.9	6380	RR	1943	2142	89	61	
1	80.6	780	RR	1935	2105	17,459	11,961		3	128.5	6670	DP-5	1947:00	2146:00	0	0	
1	87.4	800	MF	1937	2109	1,541	2,854		3	125.4	6370	RR	1945	2144	0	0	
1	94.8	750	RR	1948	2107	148,938	102,037		3	131.4	6470	RR	1951	2151	1	1	
1	99.3	780	RR	1938	2111	139,050	95,263		3	136.7	6250	RR	1953	2152	2	1	
1	105.7	770	DP-1	1939:00	2112:59	237,536	93,589										
1	110.9	740	DP-2	1941:15	2120:10	443,015	178,358		e11	Measured dosage of 111 particles considered to be contamination.							
1	118.0	770	RR	1950	2125	10,904	7,470										
1	122.1	680	RR	1950	2126	4,212	2,886		f11	Measured dosage of 13 particles disregarded; sample damaged.							
1	129.5	700	RR	1951	2127	279	191										
1	137.9	670	RR	1952	2128	74	5										
2	77.3	3270	RR	1931	2141	0	0										
2	83.9	3150	RR	1933	2147	54	37										
2	88.4	3070	RR	1933	2146	13	9										
2	95.0	2980	RR	1934	2194	2,142	1,467										
2	101.6	3150	DP-10	1935:50	2137:05	17,763	6,825										
2	106.8	3190	RR	1940	2137	8,422	5,770										
2	112.0	3110	RR	1942	2131	5,586	3,827										
2	116.0	3380	DP-12	1944:25	2123:27	9,989	4,204										
2	122.6	3080	MF	1950	2117	38	70										
2	129.1	3180	RR	1952	2114	0	0										
2	134.2	3230	RR	1952	2112	0	0										
3	72.5	7410	RR	1959	2124	3	2										
3	79.4	7430	RR	2000	2130	0	0										
3	82.1	7410	RR	2001	2132	0	0										
3	84.7	7240	DP-4	2005:00	2135:04	e11	-										
3	88.2	7240	RR	2006	2140	4	3										
3	90.9	7130	RR	2007	2142	67	46										
3	94.2	7040	RR	2010	2144	- f11	-										
3	97.8	6910	DP-8	2010:45	2146:23	2,193	784										
3	104.8	6810	RR	2011	2150	2,203	1,509										
3	101.7	6880	RR	2012	2151	2,710	1,857										
3	110.8	6490	RR	1937	2133	3,676	2,518										
3	107.8	6580	RR	1936	2137	3,269	2,240										
3	113.5	6410	RR	1938	2134	3,520	2,412										
3	116.7	6410	DP-7	1939:00	2137:45	3,314	1,326										
3	123.0	6360	RR	1944	2144	8	5										

TABLE 5. SEQUENTIAL DOSAGES AT SURFACE

Symbols

Azi(deg)	:	Azimuth to the nearest tenth of a degree of samplers from dissemination site
R(m)	:	Range to the nearest 10 meters of sampler from dissemination site
Dosage (Part.)	:	Number of (fluorescent) particles
Site A	:	Forest Park
Site B	:	Roof of the Knights of Columbus Building

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

[illegible]

^aBug found in collector (Table IV)
office; total dosage adjusted, but no satisfactory method discovered for adjusting the listed sequential patterns.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 5				Experiment No. 7				Experiment No. 8			
22 July 1963				25 July 1963				26 July 1963			
Tracer Release: Site B				Tracer Release: Site B				Tracer Release: Site B			
(1104 to 1204 CST)				(1040 to 1140 CST)				(1045 to 1145 CST)			
Arc: 6; Azi(deg): 33.6				Arc: 5; Azi(deg): 315.3				Arc: 4; Azi(deg): 355.2			
R(m): 8170; Drum No. 4				R(m): 4050; Drum No. 5				R(m): 1910; Drum No. 2			
Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
1130:35	42	1130:45	69	1042:50	21	1048:38	3	1056:50	4	1112:50	30
34	63	34	36	44	5	50	0	1100	87	13	12
38	71	42	32	46	47	52	40	04	321	14	8
42	42	46	40	50	201	56	9	08	228	15	
								12		16	5
1150:35	62	1150:45	16	1052:50	34	1058:38	10	1116:50	154	1117:50	0
54	72	54	18	54	69	1100	11	20	412	18	0
58	104	58	4	56	306	02	64	24	215	19	808
1202	59	1202	7	58	198	04	51	28	291	20	1971
06	54	06	3	1100	209	06	17	32	146	21	1516
1210:35	32	1102:50	175	1108:38	42	1118:38	45	1136:50	373	1122:50	1416
14	28	04	40	10	11	10	11	40	195	23	1669
18	26	06	121	12	17	12	17	44	130	24	1204
22	4	08	63	14	72	14	72	48	72	25	659
26	68	10	82	16	21	16	21	52	199	26	1659
1230:35	61	1112:50	100	1118:38	45	1118:38	45	1156:50	336	1127:50	1312
34	42	14	75	20	85	20	85	1200	150	28	795
38	5	16	210	22	25	22	25	04	29	29	63
42	1	18	253	24	22	24	22			30	14
		20	53	26	15	26	15			31	0
		1122:50	32	1128:38	9	1128:38	9			1132:50	0
		24	0	30	0	30	0			33	0
		26	6	32	0	32	0			34	0
		28	9	34	5	34	5			35	0
		30	78	36	7	36	7			36	0
		1132:50	342	1138:38	0	1138:38	0			1137:50	0
		34	191	40	0	40	0			38	0
		36	240	42	5	42	5			39	0
		38	55	44	29	44	29			40	0
		40	15	46	25	46	25			41	0
		1142:50	31	1148:38	41	1148:38	41			1142:50	0
		44	35	50	15	50	15			43	0
		46	30	52	1	52	1			44	0
		48	12	54	1	54	1			45	5
		50	6							46	77

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

[illegible]

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 11				Experiment No. 11				Experiment No. 11				Experiment No. 12			
16 September 1963				16 September 1963				16 September 1963				17 September 1963			
Tracer Release:Site B				Tracer Release:Site B				Tracer Release:Site B				Tracer Release:Site B			
(1100 to 1200 CST)				(1100 to 1200 CST)				(1100 to 1200 CST)				(2000 to 2030 CST)			
Arc: 4 ; Azi(deg): 315.6				Arc: 5 ; Azi(deg): 324.7				Arc: 6 ; Azi(deg): 322.7				Arc: 4 ; Azi(deg): 307.2			
R(m): 2140; Drum No. 4				R(m): 4250; Drum No. 1				R(m): 8070; Drum No. 3				R(m): 1930; Drum No. 4			
Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
1130:20		1205:20	11	1107:50	11	1140:45		2033:20		2119:00		2119:00			
31	39	06	34	09	25	42	9	34	1	21	1	21	1		
32	265	07	8	11	18	44	20	35	0	23	0	23	3		
33	1575	08	23	13	27	46	42	36	1	25	1	25	1		
34	1221	09	6	15	4	48	67	37	12	27	12	27	0		
1135:20		1210:20	9	1117:50	13	1150:45	93	2038:20	19	2129:00	19	2129:00	1		
36	2075	11	4	19	18	52	101	39	48	31	48	31	4		
37	1818	12	7	21	2	54	62	40	23	33	23	33	4		
38	1444	13	10	23	2	56	41	41	41	35	41	35	5		
39	1135	14	2	25	47	58	81	42	71	37	71	37	4		
1140:20				1127:50	12	1200:45	123	2043:20	50	2139:00	50	2139:00	2		
41	526			29	12	02	55	44	15	41	15	41	7		
42	409			31	66	04	36	45	4	43	4	43	4		
43	301			33	14	06	23	46	25	45	25	45	3		
44	151			35	181	08	12	47	23	47	23	47	3		
1145:20				1137:50	229	1210:45	19	2048:20	27	2149:00	27	2149:00	6		
46	180			39	111	12	10	49	31	51	31	51	0		
47	121			41	117	14	35	50	16	53	16	53	2		
48	129			43	325	16	71	51	51						
49	138			45	697	18	138	52	52						
1150:20				1147:50	196	1220:45	183								
51	137			49	33	22	131								
52	119			51	98	24	74								
53	125			53	121	26	31								
54	90			55	143	28	19								
	65														
1155:20				1157:50	205	1230:45	4								
56	31			59	110	32	3								
57	190			1201	69										
58	210			03	105										
59	299			05	318										
	310														
1200:20				1207:50	310										
01	180			09	323										
02	121			11	135										
03	129			13	42										
04	96														
	39														

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 13 18 September 1963 Tracer Release: Site B (2000 to 2100 CST) Arc: 5; Azi(deg): 321.2 R(m): 4360; Drum No. 5		Experiment No. 13 18 September 1963 Tracer Release: Site B (2000 to 2100 CST) Arc: 5; Azi(deg): 330.7 R(m): 4240; Drum No. 2		Experiment No. 13 18 September 1963 Tracer Release: Site B (2000 to 2100 CST) Arc: 5; Azi(deg): 337.6 R(m): 4120; Drum No. 1		Experiment No. 14 1 April 1964 Tracer Release: Site B (1200 to 1300 CST) Arc: 4; Azi(deg): 332.1 R(m): 1980; Drum No. 3		Experiment No. 14 1 April 1964 Tracer Release: Site (to CST) Arc: ; Azi(deg): R(m): ; Drum No.3(cont)		Experiment No. 14 1 April 1964 Tracer Release: Site B (1200 to 1300 CST) Arc: 5; Azi(deg): 321.2 R(m): 4360; Drum No. 4	
Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
2218:45		2220:30		2201:40		1204:25		1239:25		1218:40	
20	8	22	1	03	10	05	122	40	0	20	2
22	2	24	5	05	33	06	602	41	0	22	5
24	5	26	2	07	40	07	182	42	0	24	14
		28	8	09	22	08	224	43	0	26	5
		2230:30	8	2211:40	39	1209:25	318	1244:25	0	1228:40	14
		32	3	13	24	10	371	45	0	30	38
				15	45	11	503	46	0	32	75
				17	20	12	312	47	0	34	9
				19	23	13	298	48	0	36	52
		2221:40		1214:25	80	1249:25		1238:40	0	1238:40	47
		23	165	15	22	50		40	0	40	4
		25	201	16	3	51		42	0	42	12
		27	257	17	55	52		44	0	44	14
		29	231	18	165	53		46	0	46	103
		2231:40		1219:25	98	1254:25	0	1248:40	0	1248:40	50
		33	153	20	18	55	0	50	0	50	59
		35	147	21	8	56	21	52	21	52	53
		37	127	22	4	57	6	54	6	54	9
		39	94	23	2	58	1	56	1	56	17
		2241:40		1224:25	162	1259:25	190	1258:40	190	1258:40	131
		43	138	25	136	1300	263	1300	263	1300	100
		45	129	26	46	01	394	02	394	02	24
		47	148	27	27	02	331	04	331	04	106
			7	28	12	03	69	06	69	06	5
				1229:25	3	1304:25	36	1308:40	36	1308:40	2
				30	0	05	17	10	17	10	2
				31	0						
				32	0						
				33	0						
				1234:25	0						
				35	0						
				36	0						
				37	0						
				38	0						

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 14 1 April 1964			Experiment No. 14 1 April 1964			Experiment No. 14 1 April 1964			Experiment No. 15 6 April 1964			Experiment No. 15 6 April 1964			Experiment No. 16 7 April 1964		
Tracer Release: Site B (1200 to 1300 CST) Arc: 6; Azi(deg): 316.0 R(m): 7790 ; Drum No. 7			Tracer Release: Site B (1200 to 1300 CST) Arc: 6; Azi(deg): 332.6 R(m): 790; Drum No. 10 ^b			Tracer Release: Site B (1200 to 1300 CST) Arc: 6; Azi(deg): 332.6 R(m): 790; Drum No. 10 ^b			Tracer Release: Site B (2040 to 2140 CST) Arc: 4; Azi(deg): 8.9 R(m): 1910; Drum No. 8 ^c			Tracer Release: Site B (2040 to 2140 CST) Arc: 5; Azi(deg): 25.9 R(m): 4410; Drum No. 1			Tracer Release: Site A (2048 to 2148 CST) Arc: 1; Azi(deg): 137.9 R(m): 670 ; Drum No. 8		
Time (CST)	Dosage (Part.)		Time (CST)	Dosage (Part.)		Time (CST)	Dosage (Part.)		Time (CST)	Dosage (Part.)		Time (CST)	Dosage (Part.)		Time (CST)	Dosage (Part.)	
1216:20			1145:45	(114)	(52)	1245:00	(52)		2046:30	329	1	2054:24	56	1	2100:30	01	1112
18	13		1147:00	(62)	(56)	47	(56)		48	2244	162	58	58	162	02	3956	
20	21		49	(46)	(45)	49	(45)		50	3427	60	2100	2100	60	03	3636	
22	15		51	(53)	(52)	51	(52)		52	1363					04	2926	
24	17		53			53			54								
1226:20			1155:00	(48)	(39)	1255:00	(39)		2056:30	20					2105:30	06	4903
28	7		57	(58)	(56)	57	(56)		58	4					07	7842	
30	3		59	(38)	(43)	59	(43)		2100	1					08	4151	
32	51		1201	(42)	(39)	1301	(39)		02	4					09	4082	
34	74		03	(42)	(67)	03	(67)									299	
1236:20			1205:00	(67)	(48)	1305:00	(48)								2110:30	11	191
38	170		07	(76)	(29)	07	(29)								12	1010	
40	149		09	(71)	(43)	09	(43)								13	653	
42	150		11	(58)	(44)	11	(44)								14	859	
44	152		13	(56)	(48)	13	(48)									1404	
	120																
1246:20			1215:00	(46)	(54)	1315:00	(54)								2115:30	16	1290
48	96		17	(80)	(48)	17	(48)								17	114	
50	188		19	(53)	(49)	19	(49)								18	53	
52	178		21	(66)	(39)	21	(39)								19	948	
54	123		23	(60)	(46)	23	(46)									735	
	30																
1256:20			1225:00	(49)	(51)	1325:00	(51)								2120:30	21	346
58	12		27	(58)	(53)	27	(53)								22	223	
1300	12		29	(47)	(47)	29	(47)								23	377	
02	64		31	(48)	(41)	31	(41)								24	445	
04	220		33	(48)	(48)	33	(48)									123	
	193																
1306:20			1235:00	(31)	(46)	1335:00	(46)								2125:30	26	42
08	131		37	(49)	(58)	37	(58)								27	240	
10	83		39	(42)	(3)	39	(3)								28	3427	
12	39		41	(47)		41									29	3427	
14	19		43	(41)		43										2786	
	4																
1316:20															2130:30	31	3009
18	0														32	3705	
20	2														33	3176	
22	2														34	3595	
	2															1467	

^b Sequential dosage patterns listed in parentheses;
entire measured dosage considered to be contamination.

^c Plastic rain cover blew
over intake orifice at an
unknown time; adjustment
to measured dosage considered
unnecessary.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 16			Experiment No. 16			Experiment No. 16			Experiment No. 18		
7 April 1964			7 April 1964			9 April 1964			Tracer Release:Site A		
Tracer Release:Site A			Tracer Release:Site A			Tracer Release:Site A			Tracer Release:Site A		
(2048 to 2148 CST)			(2048 to 2148 CST)			(2045 to 2145 CST)			(2045 to 2145 CST)		
Arc: 2 ; Azi(deg): 138.7			Arc: 3 ; Azi(deg): 131.4			Arc: 1 ; Azi(deg): 29.6			Arc: 1 ; Azi(deg): 29.6		
R(m): 3320; Drum No. 4			R(m): 6470; Drum No. 10			R(m): ; Drum No. 10(cont)			R(m): ; Drum No. 8		
Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
2135:30	2086	2106:30	107	2105:20	24	2215:20	5	2051:50	108	2126:50	28960
36	6979	08	627	07	15	17	10	52	818	27	21720
37	6868	10	529	09	73	19	7	53	2104	28	12560
38	4862	12	396	11	244	21	8	54	4870	29	12200
39	3956	14		13		23	15	55		30	9720
2140:30	4054	2116:30	108	2115:20	205	2225:20	3	2056:50	5990	2131:50	6890
41	6952	18	52	17	263	27	9	57	8130	32	11830
42	8038	20	17	19	272	29	8	58	17870	33	10850
43	6491	22	29	21	351	31	6	59	20290	34	12640
44	4931	24	14	23	230			2100	7430	35	13030
2145:30	217	2126:30	8	2125:20	250	2101:50		2101:50	3070	2136:50	21310
46	86	28	1	27	209	02		02	3310	37	12850
47	394	30	2	29	247	03		03	2860	38	16980
48	3315	32	9	31	266	04		04	3164	39	28270
49	282	34	201	33	221	05		05	1971	40	33610
2150:30	252	2136:30	468	2135:20	254	2106:50		2106:50	2532	2141:50	26220
51	48	38	363	37	200	07		07	3560	42	23890
52	7	40	228	39	107	08		08	4360	43	27870
53	26	42	168	41	86	09		09	3570	44	21060
54	13	44	209	43	107	10		10	2560	45	33120
2155:30	6	2146:30	114	2145:20	28	2111:50		2111:50	2410	2146:50	45290
56	6	48	187	47	32	12		12	2430	47	7712
57	1	50	834	49	19	13		13	2960	48	45840
58	3	52	317	51	60	14		14	4040	49	46120
59	8	54	16	53	101	15		15	8954	50	36480
2200:30	9	2156:30	3	2155:20	311	2116:50		2116:50	14520	2151:50	35240
01	8	58	3	57	382	17		17	13900	52	26640
02	24			59	155	18		18	7220	53	10800
03	11			2201	89	19		19	10530	54	12140
04	6			03	60	20		20	15020	55	6940
2205:30	9			2205:20	32	2121:50		2121:50	23000	2156:50	5980
06	5			07	13	22		22	23880	57	4800
07	12			09	14	23		23	24320	58	3540
08	11			11	5	24		24	26380	59	3000
09	14			13	10	25		25	25320	2200	92
2210:30	6					2201:50		2201:50		2201:50	37
11	4					02		02		02	12
12	13					03		03		03	551
13	139										

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 18 9 April 1964 Tracer Release:Site A (2045 to 2145 CST) Arc: 2; Azi(deg): 31.6 R(m): 3480 ; Drum No. 9		Experiment No. 18 9 April 1964 Tracer Release:Site A (2045 to 2145 CST) Arc: 2; Azi(deg): 48.7 R(m): 3470; Drum No. 1		Experiment No. 18 9 April 1964 Tracer Release:Site A (2045 to 2145 CST) Arc: 3; Azi(deg): 19.6 R(m): 6980; Drum No. 7		Experiment No. 18 9 April 1964 Tracer Release:Site A (2045 to 2145 CST) Arc: 3; Azi(deg): 32.5 R(m): 7710; Drum No. 2 ^d		Experiment No.18 Tracer Release:Site (to CST) Arc: ; Azi(deg): R(m): ; Drum No.2 ^d (cont)R(m): 740 ; Drum No. 9		Experiment No. 19 2 June 1964 Tracer Release:Site A (1030 to 1130 CST) Arc:1 ; Azi(deg): 110.9 R(m): ; Drum No. 9	
Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
2105:20	13	2046:05	574	2155:15	5	2024:52	(6)	2114:52	(12)	1034:22	45
07	56	48	14	57	5	26	(12)	16	(11)	35	95
09	214	50	6	59	11	28	(4)	18	(20)	36	2262
11	786	52	10	2201	34	30	(1)	20	(9)	37	10893
13		54		03		32		22	(12)	38	
2115:20	778	2056:05	8	2205:15	24	2034:52	(2)	2124:52	(6)	1039:22	13429
17	859	58	6	07	20	36	(0)	26	(5)	40	2462
19	884	2100	8	09	32	38	(6)	28	(5)	41	816
21	955	02	4	11	33	40	(0)	30	(2)	42	254
23	820	04	3	13	54	42	(4)	32	(1)	43	1452
2125:20	1528	2106:05	0	2215:15	47	2044:52	(12)	2134:52	(6)	1044:22	14543
27	1624	08	8	17	59	46	(6)	36	(18)	45	12648
29	1846	10	7	19	65	48	(8)	38	(4)	46	27024
31	1691			21	71	50	(5)	40	(16)	47	30256
33	3775			23	75	52	(7)	42	(9)	48	29030
2135:20	2584			2225:15	70	2054:52	(15)			1049:22	16744
37	2618			27	116	56	(9)			50	14766
39	2506			29	118	58	(1)			51	15880
41	2232			31	116	2100	(9)			52	20589
43	1429			33	174	02	(2)			53	11534
2145:20	920			2235:15	159	2104:52	(14)			1054:22	2974
47	885			37	163	06	(8)			55	489
49	1010			39	198	08	(3)			56	476
51	1147			41	95	10	(18)			57	276
53	858			43	94	12	(3)			58	168
2155:20	538			2245:15	44					1059:22	134
57	690			47	34					1100	104
59	492			49	24					01	196
2201	529									02	14654
03	344									03	6909
2205:20	262										
07	198										
09	190										
11	74										

^dTotal dosage adjusted (Table IV); measured dosage considered to be primarily contamination; sequential patterns listed here in parentheses.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 19				Experiment No. 19				Experiment No. 19				Experiment No. 19			
2 June 1964				2 June 1964				2 June 1964				2 June 1964			
Tracer Release: Site (to CST)				Tracer Release: Site A (1030 to 1130 CST)				Tracer Release: Site A (1030 to 1130 CST)				Tracer Release: Site A (1030 to 1130 CST)			
Arc: ; Azi(deg):				Arc: 1; Azi(deg): 137.9				Arc: ; Azi(deg):				Arc: 2; Azi(deg): 122.6			
R(m): ; Drum No. 9(cont)				R(m): 670; Drum No. 4				R(m): ; Drum No. 4 (cont)				R(m): 3080; Drum No. 1			
Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
1104:22	8442	1036:58	2680	1101:58	2	1041:16	25	1010:04	0 (60)	1109:46	0 (31)				
05	2942	37	3540	02	2460	43	748	11	0 (72)	11	0 (30)				
06	352	38	704	03	7260	45	1757	13	0 (54)	13	0 (71)				
07	262	39	249	04	3940	47	524	15	0 (59)	15	0 (51)				
08	308	40		05	5460	49		17:04	0 (59)	17	0 (50)				
1109:22	236	1041:58	135	1106:58	14760	1051:16	215	1019:47	0 (37)	1119:46	222 (262)				
10	106	42	440	07	11120	53	133	21	0 (67)	21	1524 (1562)				
11	82	43	442	08	8880	55	351	23	0 (43)	23	652 (690)				
12	96	44	90	09	9400	57	219	25	0 (79)	25	300 (337)				
13	52	45	300	10	17400	59	155	27	0 (73)	27					
1114:22	70	1046:58	38	1111:58	9480	1101:16	120	1029:47	0 (76)	1129:46	143 (180)				
15	36	47	86	12	3960	03	43	31	0 (66)	31	23 (60)				
16	38	48	333	13	1000	05	9	33	0 (61)	33	2 (36)				
17	1047	49	436	14	461	07	4	35	0 (41)	35	5 (39)				
18	1137	50	223	15	2386	09	76	37	0 (39)	37	17 (52)				
1119:22	1234	1051:58	239	1116:58	8040	1111:16	398	1039:47	0 (76)	1139:46	0 (42)				
20	9194	52	234	17	4640	13	52	41	0 (45)	41	0 (38)				
21	9445	53	55	18	3760	15	261	43	0 (20)	43	0 (71)				
22	4290	54	28	19	1117	17	76	45	0 (73)	45	0 (42)				
23	1144	55	7	20	323	19	35	47	0 (41)	47	0 (27)				
1124:22	372	1056:58	8	1121:58	31	1121:16	11	1049:47	0 (38)	1149:46	0 (6)				
25	38	57	2			23	550	51	0 (39)	51	0 (29)				
		58	3			25	606	53	0 (31)	53	0 (28)				
		59	2			27	464	55	0 (31)	55:46	0 (24)				
		1100	2			29	70	57	0 (30)	57:30	0 (9)				
						1131:16	13	1059:47	0 (57)						
								1101:47	0 (58)						
								03:46	0 (51)						
								05	0 (55)						
								07	0 (54)						

^eAssumed contamination subtracted from each sequential dosage pattern; measured patterns listed in parentheses.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 19			Experiment No. 19			Experiment No. 19			Experiment No. 20		
2 June 1964			2 June 1964			2 June 1964			3 June 1964		
Tracer Release:Site A			Tracer Release:Site A			Tracer Release:Site A			Tracer Release:Site A		
(1030 to 1130 CST)			(1030 to 1130 CST)			(1030 to 1130 CST)			(1040 to 1140 CST)		
Arc: 3; Azi(deg): 128.5			Arc: 3; Azi(deg): 136.7			Arc: 3; Azi(deg): 145.0			Arc: 1; Azi(deg): 35.4		
R(m): 6670; Drum No. 3			R(m): 6250; Drum No. 2			R(m): 6380; Drum No. 8 ^f			R(m): 910 ; Drum No. 8		
Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
1053:45	14	1056:00	52	1128:40	87	1015:40	0 (39)	1125:40	6 (23)	1135:08	12
55	68	58	49	30	205	17	0 (35)	27	4 (15)	36	20
57	90	1100	7	32	167	19	0 (57)	29	3 (14)	37	19
59	70	02	14	34	63	21	0 (48)	31	4 (15)	38	20
1101		04		36		23	0 (22)	33	1 (11)	39	20
1103:45	38	1106:00	1	1138:40	14	1025:40	0 (27)	1135:40	8 (18)		
05	74	08	57	40	5	27	0 (27)	37	5 (15)		
07	144	10	29			29	0 (25)	39	0 (8)		
09	310	12	14			31	0 (27)	41	7 (17)		
11	96	14	2			33	0 (22)	43	7 (16)		
1113:45	16	1116:00	6			1035:40	0 (39)	1145:40	6 (14)		
15	10	18	8			37	0 (18)	47	2 (10)		
17	32	20	8			39	0 (23)	49	0 (0)		
19	16	22	16			41	0 (13)	51	0 (3)		
21	28	24	60			43	0 (13)	53	0 (8)		
1123:45	12	1126:00	54			1045:40	0 (22)	1155:40	0 (7)		
25	30	28	16			47	0 (13)	57	0 (6)		
27	8	30	10			49	0 (19)	59	0 (7)		
29	0	32	47			51	0 (25)	1201	0 (2)		
31	2	34	73			53	0 (16)	03	0 (12)		
1133:45	28	1136:00	33			1055:40	0 (18)	1205:40	0 (8)		
35	22	38	19			57	0 (22)	07	0 (9)		
37	128	40	8			59	0 (15)	09	0 (5)		
39	76					1101	0 (17)	11	0 (4)		
41	14					03	0 (17)	13	0 (7)		
1143:45	2					1105:40	0 (13)	1215:40	0 (9)		
45	30					07	0 (14)	17	0 (4)		
47	56					09	0 (15)	19	0 (3)		
49	30					11	0 (8)	21	0 (6)		
51	14					13	0 (21)	23	0 (6)		
1153: 45	4					1115:40	0 (15)	1225:40	0 (3)		
55	2					17	0 (8)				
57	2					19	0 (7)				
						21	94 (133)				
						23	0 (7)				

^f Assumed contamination subtracted from each sequential dosage pattern; measured patterns listed in parentheses.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 20			Experiment No. 20			Experiment No. 20			Experiment No. 20			Experiment No. 20		
3 June 1964			3 June 1964			3 June 1964			3 June 1964			3 June 1964		
Tracer Release: Site A (1040 to 1140 CST)			Tracer Release: Site A (1040 to 1140 CST)			Tracer Release: Site A (1040 to 1140 CST)			Tracer Release: Site A (1040 to 1140 CST)			Tracer Release: Site A (1040 to 1140 CST)		
Arc: 1; Azi(deg): 51.7			Arc: 1; Azi(deg): 08.9			Arc: 1; Azi(deg): 08.9			Arc: 2; Azi(deg): 36.9			Arc: 2; Azi(deg): 36.9		
R(m): 810; Drum No. 4			R(m): 850; Drum No. 9			R(m): 850; Drum No. 9			R(m): 3270; Drum No. 10 ^g			R(m): 3270; Drum No. 10 ^g		
Time (CST)	Dosage (Part.)		Time (CST)	Dosage (Part.)		Time (CST)	Dosage (Part.)		Time (CST)	Dosage (Part.)		Time (CST)	Dosage (Part.)	
1102:12			1127:12	0	1102:35	1127:35	0	1007:54	1107:53			1107:53		
03	1093		28	0	03	28	2816	0	09			09	(22)	(8)
04	13200		29	0	04	29	7411	0	11			11	(10)	(28)
05	15570		30	0	05	30	9751	0	13			13	(6)	(28)
06	14860		31	5	06	31	10643	0	15			15	(4)	(28)
1107:12			1132:12	2	1107:35	1132:35	8247	0	1017:54	1117:53		1117:53		
08	8880		33	59	08	33	4458	0	19			19	(6)	(23)
09	10970		34	451	09	34	1351	123	21			21	(7)	(13)
10	962		35	245	10	35	1811	186	23			23	(3)	(18)
11	648		36	549	11	36	690	110	25:54			25	(13)	(11)
1112:12			1137:12	14160	1112:35	1137:35	290	31	1027:53	1127:53		1127:53		
13	152		38	11800	13	38	130	80	29			29	(0)	(32)
14	44		39	1725	14	39	91	1435	31			31	(6)	(18)
15	32		40	1343	15	40	108	3761	33			33	(4)	(25)
16	24		41	266	16	41	91	2119	35			35	(13)	(19)
1117:12			1142:12	19	1117:35	1142:35	231	638	1037:53	1137:53		1137:53		
18	6		43	7	18	43	1202	288	39			39	(9)	(10)
19	18		44	5	19	44	434	46	41			41	(6)	(12)
20	9		45	4	20	45	151	20	43			43	(13)	(18)
21	21		46	14	21	46	60		45			45	(11)	(21)
1122:12			1147:12	10	1122:35	1147:53	0		1047:53	1147:53		1147:53		
23	17				23		0		49			49	(16)	(28)
24	11				24		0		51			51	(21)	(21)
25	0				25		0		53			53	(2)	(14)
26	0				26		0		55			55	(12)	(25)
	0						0						(8)	(20)
									1057:53	1157:52		1157:52	(15)	(19)
									59			59	(5)	(27)
									1101			1101	(12)	
									03			03	(12)	
									05			05	(15)	

^gSequential dosage patterns listed in parentheses;
entire measured dosage considered to be contamination.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 20 3 June 1964		Experiment No. 20 3 June 1964		Experiment No. 20 3 June 1964		Experiment No. 21 4 June 1964		Experiment No. 21 4 June 1964		Experiment No. 21 4 June 1964	
Tracer Release:Site A (1040 to 1140 CST)		Tracer Release:Site A (1040 to 1140 CST)		Tracer Release:Site A (1040 to 1140 CST)		Tracer Release:Site B (1030 to 1130 CST)		Tracer Release:Site (to CST)		Tracer Release:Site (to CST)	
Arc: 2; Azi(deg): 48.7		Arc: 2; Azi(deg): 65.4		Arc: 3; Azi(deg): 64.3		Arc: 4; Azi(deg): 4.7		Arc: ; Azi(deg):		Arc: ; Azi(deg):	
R(m): 3470; Drum No. 5		R(m): 3470; Drum No. 1		R(m): 7410; Drum No. 2		R(m): 2020; Drum No. 9 ^h		R(m):		R(m): ; Drum No. 9 ^h (cont)	
Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
1139:46		1138:30		1132:45		1017:05		1042:05		1107:05	
41	16	40	49	34	34	18	0 (37)	43	101(115)	08	0 (8)
43	66	42	56	36	64	19	0 (553)	44	52(66)	09	0 (7)
45	11	44	56	38	88	20	0 (29)	45	50(64)	10	0 (15)
47	4	46	49	40	38	21	0 (8)	46	25(39)	11	0 (36)
									10(24)		0 (26)
		1148:30		1142:45		1022:05		1047:05		1112:05	
		50	27	44	105	23	0 (4)	48	0 (13)	13	0 (18)
		52	23	46	48	24	0 (21)	49	0 (18)	14	0 (16)
		54	9	48	16	25	0 (16)	50	0 (20)	15	0 (22)
			3	50	17	26	0 (14)	51	0 (15)	16	0 (12)
					37				0 (11)		0 (17)
				1152:45		1027:05		1052:05		1117:05	
				54	127	28	0 (10)	53	0 (6)	18	0 (10)
				56	152	29	0 (13)	54	0 (13)	19	0 (21)
				58	180	30	0 (11)	55	0 (14)	20	0 (33)
				1200	133	31	0 (11)	56	0 (12)	21	0 (9)
					120		0 (9)		0 (15)		0 (12)
				1202:45		1032:05		1057:05		1122:05	
				04	54	33	0 (17)	58	0 (13)	23	0 (22)
				06	66	34	0 (10)	59	0 (16)	24	0 (17)
				08	12	35	0 (13)	1100	0 (13)	25	0 (16)
				10	7	36	0 (11)	01	0 (8)	26	0 (23)
					7		0 (14)		0 (6)		0 (12)
				1037:05		1037:05		1102:05		1127:05	
				38	0 (8)	38	0 (8)	03	0 (11)	28	0 (15)
				39	0 (20)	39	0 (20)	04	0 (8)	29	0 (10)
				40	0 (22)	40	0 (22)	05	0 (12)	30	0 (10)
				41	0 (11)	41	0 (11)	06	0 (7)	31	0 (6)
					10 (24)		10 (24)		0 (15)		0 (9)

^h Assumed contamination subtracted from each sequential dosage pattern; measured patterns listed in parentheses.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 21 4 June 1964	Experiment No. 21 4 June 1964	Experiment No. 21 4 June 1964	Experiment No. 21 4 June 1964	Experiment No. 21 4 June 1964	Experiment No. 21 4 June 1964	Experiment No. 22 6 June 1964	Experiment No. 22 6 June 1964	Experiment No. 22 6 June 1964
Tracer Release: Site B (1030 to 1130 CST) Arc: 6; Azi(deg): 341.5 R(m): 7920; Drum No. 10	Tracer Release: Site B (1030 to 1130 CST) Arc: 7; Azi(deg): 342.0 R(m): 18010; Drum No. 7	Tracer Release: Site B (1030 to 1130 CST) Arc: 1; Azi(deg): 29.6 R(m): 930; Drum No. 4	Tracer Release: Site A (1130 to 1230 CST) Arc: 3; Azi(deg): 8.3 R(m): 7430; Drum No. 8	Tracer Release: Site A (1130 to 1230 CST) Arc: 3; Azi(deg): 8.3 R(m): 7430; Drum No. 8	Tracer Release: Site A (1130 to 1230 CST) Arc: 3; Azi(deg): 8.3 R(m): 7430; Drum No. 8	Tracer Release: Site A (1130 to 1230 CST) Arc: 3; Azi(deg): 8.3 R(m): 7430; Drum No. 8	Tracer Release: Site A (1130 to 1230 CST) Arc: 3; Azi(deg): 8.3 R(m): 7430; Drum No. 8	Tracer Release: Site A (1130 to 1230 CST) Arc: 3; Azi(deg): 8.3 R(m): 7430; Drum No. 8
Time (CST)	Time (CST)	Time (CST)	Time (CST)	Time (CST)	Time (CST)	Time (CST)	Time (CST)	Time (CST)
Dosage (Part.)	Dosage (Part.)	Dosage (Part.)	Dosage (Part.)	Dosage (Part.)	Dosage (Part.)	Dosage (Part.)	Dosage (Part.)	Dosage (Part.)
1132:05	1112:10	1140:10	1134:20	1134:20	1134:20	1134:20	1134:20	1134:20
0 (5)	12	8	197	197	197	197	197	197
0 (10)	13	8	192	192	192	192	192	192
0 (17)	49	2	4000	4000	4000	4000	4000	4000
0 (9)	472	8	2380	2380	2380	2380	2380	2380
0 (27)								
1137:05	1122:10	1150:10	1139:20	1139:20	1139:20	1139:20	1139:20	1139:20
0 (10)	519	12	2260	2260	2260	2260	2260	2260
0 (21)	388	8	1390	1390	1390	1390	1390	1390
0 (10)	49	18	4040	4040	4040	4040	4040	4040
0 (4)	27	16	6680	6680	6680	6680	6680	6680
0 (12)	5	18	9160	9160	9160	9160	9160	9160
1142:05	1132:10	1200:10	1144:20	1144:20	1144:20	1144:20	1144:20	1144:20
0 (10)	2	32	20420	20420	20420	20420	20420	20420
0 (17)	8	8	11880	11880	11880	11880	11880	11880
0 (15)	6	28	5520	5520	5520	5520	5520	5520
0 (11)	14	26	1884	1884	1884	1884	1884	1884
0 (12)	6	46	2030	2030	2030	2030	2030	2030
1147:05	1142:10	1210:10	1149:20	1149:20	1149:20	1149:20	1149:20	1149:20
0 (17)	3	52	1061	1061	1061	1061	1061	1061
0 (11)	28	32	192	192	192	192	192	192
0 (21)	72	40	68	68	68	68	68	68
0 (7)	106	28	61	61	61	61	61	61
0 (15)	12	28	77	77	77	77	77	77
1152:05	1152:10	1220:10	1154:20	1154:20	1154:20	1154:20	1154:20	1154:20
0 (18)	9	42	25	25	25	25	25	25
0 (23)	9	48	32	32	32	32	32	32
0 (28)	0	44	35	35	35	35	35	35
0 (15)	10	52	17	17	17	17	17	17
0 (13)	13	54	9	9	9	9	9	9
1157:05	1157:10	1230:10	1159:20	1159:20	1159:20	1159:20	1159:20	1159:20
0 (14)	48	48	6	6	6	6	6	6
0 (16)	78	78	9	9	9	9	9	9
0 (6)	56	56	3	3	3	3	3	3
0 (2)	80	80	248	248	248	248	248	248
0 (2)	56	56	4160	4160	4160	4160	4160	4160
1200:03								
01:03								
1205:30	1205:30	1205:30	1205:30	1205:30	1205:30	1205:30	1205:30	1205:30
67	67	67	67	67	67	67	67	67
11	11	11	11	11	11	11	11	11
81	81	81	81	81	81	81	81	81
4	4	4	4	4	4	4	4	4
129	129	129	129	129	129	129	129	129
257	257	257	257	257	257	257	257	257
355	355	355	355	355	355	355	355	355
980	980	980	980	980	980	980	980	980
304	304	304	304	304	304	304	304	304
304	304	304	304	304	304	304	304	304
456	456	456	456	456	456	456	456	456
553	553	553	553	553	553	553	553	553
488	488	488	488	488	488	488	488	488
47	47	47	47	47	47	47	47	47
52	52	52	52	52	52	52	52	52
23	23	23	23	23	23	23	23	23
321	321	321	321	321	321	321	321	321
338	338	338	338	338	338	338	338	338
157	157	157	157	157	157	157	157	157
71	71	71	71	71	71	71	71	71
83	83	83	83	83	83	83	83	83
70	70	70	70	70	70	70	70	70
68	68	68	68	68	68	68	68	68
46	46	46	46	46	46	46	46	46
24	24	24	24	24	24	24	24	24
10	10	10	10	10	10	10	10	10

^aAssumed contamination subtracted from each sequential dosage pattern; measured patterns listed in parentheses.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 22 6 June 1964				Experiment No. 22 6 June 1964				Experiment No. 23 7 June 1964				Experiment No. 23 7 June 1964			
Tracer Release: Site A (1130 to 1230 CST) Arc: 3; Azi(deg): 19.6 R(m): 6980; Drum No. 3				Tracer Release: Site A (1130 to 1230 CST) Arc: 3; Azi(deg): 30.1 R(m): 6920; Drum No. 2				Tracer Release: Site A (1132 to 1232 CST) Arc: 1; Azi(deg): 29.6 R(m): 930 ; Drum No. 4				Tracer Release: Site A (1132 to 1232 CST) Arc: ; Azi(deg): R(m): ; Drum No.4(cont) R(m): 790 ; Drum No. 9			
Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
1154:00		1152:10		1239:20		1150:13		1215:13		1159:10		1204:10		1159:10	
56	3	54	15	41	38	51	94	16	0	1200	5	05	6352	1200	5
58	6	56	35	43	33	52	147	17	0	01	3	06	1773	01	3
1200	9	58	13	45	22	53	988	18	0	02	10	07	1746	02	10
02	29	1200	0			54	548	19	19	03	662	08	546	03	662
											8358		1221		8358
1204:00	9	1202:10	0			1155:13	958	1220:13	125	1139:10	8469			1139:10	8469
06	9	04	0			56	1230	21	0	40	6631			40	6631
08	37	06	0			57	391	22	0	41	17385			41	17385
10	96	08	0			58	127	23	0	42	12091			42	12091
12	124	10	6			59	15	24	0	43	2048			43	2048
1214:00	138	1212:10	13			1200:13	10	1225:13	0	1144:10	63			1144:10	63
16	121	14	11			01	114	26	0	45	6464			45	6464
18	173	16	14			02	99	27	0	46	5516			46	5516
20	136	18	83			03	37	28	0	47	5851			47	5851
22	29	20	35			04	0	29	0	48	10921			48	10921
1224:00	12	1222:10	10			1205:13	0	1230:13	0	1149:10	7578			1149:10	7578
26	2	24	6			06	0	31	0	50	8414			50	8414
28	9	26	2			07	0	32	0	51	14320			51	14320
30	157	28	0			08	0	33	132	52	4863			52	4863
32	452	30	24			09	0	34	57	53	239			53	239
1234:00	436	1232:10	14			1210:13	0	1235:13	25	1154:10	94			1154:10	94
36	259	34	3			11	0	36	49	55	11			55	11
38	116	36	0			12	0	37	15	56	10			56	10
40	23	38	0			13	0	38	14	57	7			57	7
42	25	40	0			14	0	39	8	58	11			58	11
1244:00	24	1242:10	32			1215:13									
46	28	44	137												
48	32	46	99												
50	36	48	50												
52	30	50	12												
1254:00	52	1252:10	11												
56	46	54	7												
58	10														
1300	4														

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

[illegible]

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 24				Experiment No. 24				Experiment No. 24				Experiment No. 24			
Tracer Release: Site (to CST)				Tracer Release: Site (to CST)				Tracer Release: Site (to CST)				Tracer Release: Site (to CST)			
Arc: ; Azi(deg):				Arc: ; Azi(deg):				Arc: ; Azi(deg):				Arc: ; Azi(deg):			
R(m): ; Drum No. 4(cont) R(m):				R(m): ; Drum No. 4(cont) R(m):				R(m): ; Drum No. 10(cont) R(m):				R(m): ; Drum No. 10(cont) R(m):			
Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
1101:35	1715	1131:35	440	1028:22	11	1118:22	515	1038:08	19	1040:25	66 (70)	1040:25	66 (70)	1040:25	66 (70)
02	12600	32	259	30	12	20	1820	40	84	42	68 (72)	42	68 (72)	42	68 (72)
03	8517	33	166	32	9	22	2620	42	144	44	45 (49)	44	45 (49)	44	45 (49)
04	3722	34	58	34	18	24	2488	44	483	46	0 (4)	46	0 (4)	46	0 (4)
05	1639	35	36	36		26	1790	46							
1106:35	2532	1136:35	20	1038:22	17	1128:22	1442	1048:08	393	1050:25	0 (3)	1050:25	0 (3)	1050:25	0 (3)
07	3758	37	15	40	17	30	588	50	132	52	0 (7)	52	0 (7)	52	0 (7)
08	2354	38	13	42	47	32	158	52	21	54	0 (7)	54	0 (7)	54	0 (7)
09	1227	39	14	44	441	34	76	54	6	56	0 (16)	56	0 (16)	56	0 (16)
10	1430	40	26	46	1056	36	174	56	10	58	0 (4)	58	0 (4)	58	0 (4)
1111:35	663	1141:35	17	1048:22	1059	1138:22	110	1058:08	134	1100:25	0 (4)	1100:25	0 (4)	1100:25	0 (4)
12	1754	42	16	50	1445	40	94	1100	216	02	0 (5)	02	0 (5)	02	0 (5)
13	1185	43	16	52	888	42	43	02	60	04	0 (5)	04	0 (5)	04	0 (5)
14	6280	44	14	54	332	44	18	04	19	06	0 (4)	06	0 (4)	06	0 (4)
15	8880	45	18	56	47	46	22	06	37	08	0 (4)	08	0 (4)	08	0 (4)
1116:35	8800	1146:35	11	1058:22	85	1148:22	21	1108:08	12	1110:25	0 (1)	1110:25	0 (1)	1110:25	0 (1)
17	8480	47	19	1100	801	50	17	10	1	12	0 (5)	12	0 (5)	12	0 (5)
18	6680	48	4	02	1549	52	10	12	3	14	0 (5)	14	0 (5)	14	0 (5)
19	8280	49	4	04	622	54	10	14	2	16	0 (2)	16	0 (2)	16	0 (2)
20	5520	50	19	06	1076	56	6	16	3	18	0 (6)	18	0 (6)	18	0 (6)
1121:35	8160			1108:22	648			1118:08	2	1120:25	0 (5)	1120:25	0 (5)	1120:25	0 (5)
22	8760			10	355			20	227	22	0 (4)	22	0 (4)	22	0 (4)
23	9560			12	371			22	825	24	0 (7)	24	0 (7)	24	0 (7)
24	6880			14	74			24	1279	26	0 (3)	26	0 (3)	26	0 (3)
25	4640			16	88			26	340	28	0 (3)	28	0 (3)	28	0 (3)
1126:35	489							1128:08	20						
27	74														
28	323														
29	403														
30	678														

1 Assumed contamination subtracted from each sequential dosage pattern; measured patterns listed in parentheses.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 24				Experiment No. 25				Experiment No. 25			
9 June 1964				10 June 1964				Tracer Release:Site (1030 to 1130 CST)			
Tracer Release:Site (1030 to 1130 CST)				Tracer Release:Site (1033 to 1133 CST)				Tracer Release:Site (1033 to 1133 CST)			
Arc: 3; Azi(deg): 32.5				Arc: 1; Azi(deg): 154.5				Arc: ; Azi(deg):			
R(m): 7710; Drum No. 3				R(m): 600; Drum No. 9 ^j				R(m): ; Drum No. 9 ^j (cont)R(m): ; Drum No. 9 ^j (cont)			
Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
1130:25	0 (18)	1046:00	6	1018:44	0 (77)	1042:56	1216 (1234)	1107:56	58 (72)	1132:56	24 (35)
32	0 (6)	48	23	18:56	0 (196)	43	202 (220)	08	0 (17)	33	22 (33)
34	0 (4)	50	34	19	0 (28)	44	330 (347)	09	0 (8)	34	1077 (1088)
36	0 (3)	52	64	20	0 (32)	45	192 (209)	10	73 (86)	35	620 (630)
38	0 (3)	54		21	0 (14)	46	73 (90)	11	10 (23)	36	228 (238)
1140:25	0 (2)	1056:00	94	1022:56	0 (20)	1047:56	28 (45)	1112:56	85 (98)	1137:56	92 (102)
42	0 (3)	58	61	23	0 (24)	48	31 (48)	13	0 (17)	38	64 (74)
44	0 (3)	1100	23	24	0 (15)	49	0 (12)	14	0 (16)	39	31 (41)
46	0 (3)	02	6	25	0 (11)	50	0 (8)	15	0 (15)	40	42 (52)
48	0 (1)	04	5	26	0 (14)	51	0 (13)	16	0 (9)	41	0 (12)
1150:25	0 (2)	1106:00	77	1027:56	0 (16)	1052:56	0 (12)	1117:56	0 (11)	1142:56	0 (7)
52	0 (1)	08	153	28	0 (35)	53	0 (10)	18	0 (16)	43	0 (21)
54	0 (2)	10	148	29	0 (20)	54	0 (7)	19	0 (11)	44	0 (44)
56	0 (2)	12	88	30	0 (18)	55	0 (16)	20	0 (12)	45	0 (9)
58	0 (0)	14	39	31	0 (21)	56	0 (15)	21	0 (12)	46	0 (6)
1200:25	0 (2)	1116:00	16	1032:56	0 (12)	1057:56	0 (7)	1122:56	0 (11)	1147:56	0 (5)
02	0 (4)	18	12	33	0 (28)	58	0 (7)	23	0 (6)	48	0 (7)
04	0 (5)	20	2	34	0 (25)	59	0 (10)	24	0 (14)	49	0 (8)
06	0 (3)	22	12	35	0 (40)	1100	0 (8)	25	0 (14)	50	0 (5)
08	0 (7)	24	29	36	0 (27)	01	0 (12)	26	0 (18)	51	0 (16)
1210:25	0 (2)	1126:00	26	1037:56	0 (10)	1102:56	0 (7)	1127:56	0 (10)	1152:56	0 (12)
12	0 (4)	28	42	38	0 (24)	03	0 (12)	28	8 (19)	53	0 (9)
14	0 (10)	30	89	39	581 (599)	04	0 (8)	29	61 (72)	54	0 (14)
16	0 (2)	32	106	40	1787 (1805)	05	0 (5)	30	43 (54)	55	0 (8)
		34	153	41	2749 (2767)	06	0 (9)	31	32 (42)		
		1136:00	34								
		38	7								

ⁱAssumed contamination subtracted from each sequential dosage pattern; measured pattern listed in parentheses.

^jAssumed contamination subtracted from each sequential dosage pattern; measured patterns listed in parentheses.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 25 10 June 1964		Experiment No. 25 10 June 1964		Experiment No. 25 10 June 1964		Experiment No. 25 10 June 1964		Experiment No. 26 11 June 1964	
Tracer Release: Site A (1033 to 1133 CST) Arc: 2; Azi(deg): 138.7 R(m): 3320 ; Drum No. 10		Tracer Release: Site A (1033 to 1133 CST) Arc: 3; Azi(deg): 136.7 R(m): 6250; Drum No. 2		Tracer Release: Site A (1033 to 1133 CST) Arc: 3; Azi(deg): 136.7 R(m): 6250; Drum No. 2		Tracer Release: Site B (1035 to 1135 CST) Arc: 4; Azi(deg): 293.9 R(m): 1940; Drum No. 4		Tracer Release: Site B (1035 to 1135 CST) Arc: 4; Azi(deg): 293.9 R(m): 1940; Drum No. 4	
Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
1050:11		1130:11	34	1105:25	4	1155:25	12	1119:45	
52	54	32	25	07	21	57	27	20	92
54	778	34	14	09	58	59	36	21	541
56	548	36	20	11	293	1201	24	22	898
58	396	38	112	13		03	29	23	1205
1100:11		1140:11	140	1115:25	290	1205:25	76	1124:45	
02	702	42	256	17	267	07	69	25	1088
04	959	44	484	19	251	09	1122	26	936
06	309	46	273	21	190	11	86	27	1137
08	246	48	125	23	64	13	171	28	1215
1110:11		1150:11	136	1125:25	123	1215:25	175	1129:45	
12	105	52	348	27	118	17	112	30	573
14	68	54	643	29	109	19	42	31	573
16	43	56	498	31	77	21	6	32	510
18	28	58	319	33	25	23	3	33	1769
	54								1519
1120:11		1200:11	237	1135:25	12	1225:25	7	1134:45	
22	46	02	186	37	29	27	4	35	975
24	17	04	61	39	14	29	5	36	1262
26	5	06	17	41	3	31	16	37	1280
28	9	08	7	43	3		4	38	777
									609
				1145:25	3			1139:45	
				47	2			40	815
				49	1			41	644
				51	7			42	340
				53	17			43	130
									86
								1144:45	
								45	51
								46	89
								47	29
								48	18
									12
								1149:45	
								50	18
									11

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 26 11 June 1964 Tracer Release: Site B (1035 to 1135 CST) Arc: 6; Azi(deg): 286.3 R(m): 7200; Drum No. 3	Experiment No. 26 11 June 1964 Tracer Release: Site B (1035 to 1135 CST) Arc: 6; Azi(deg): 297.0 R(m): 7490; Drum No. 8	Experiment No. 26 11 June 1964 Tracer Release: Site B (1035 to 1135 CST) Arc: 6; Azi(deg): 316.0 R(m): 7790; Drum No. 2	Experiment No. 26 11 June 1964 Tracer Release: Site B (1035 to 1135 CST) Arc: 7; Azi(deg): 293.7 R(m): 16910; Drum No. 10	Experiment No. 26 11 June 1964 Tracer Release: Site B (1035 to 1135 CST) Arc: 7; Azi(deg): 309.2 R(m): 17130; Drum No. 1	Experiment No. 28 11 October 1964 Tracer Release: Site B (1105 to 1205 CST) Arc: 4; Azi(deg): 332.1 R(m): 1980; Drum No. 9
Time (CST)	Time (CST)	Time (CST)	Time (CST)	Time (CST)	Time (CST)
1102:03	1116:00	1125:40	1114:03	1125:50	1131:38
04	18	27	16	27	32
06	20	29	18	29	33
08	22	31	20	31	34
10	24	33	22	33	35
1112:03	1126:00	1135:40	1124:03	1135:50	1136:38
14	28	37	26	37	37
16	30	39	28	39	38
18	32	41	30	41	39
20	34	43	32	43	40
1122:03		1145:40	1134:03	1145:50	1141:38
24		47	36	47	42
26		49	38	49	43
28		51	40	51	44
30		53	42	53	45
		1155:40	1144:03	1155:50	1146:38
		57	46	57	47
		59	48	59	48
		1201	50	1201	49
			52	03	50
			1154:03	1205:50	1151:38
			56	07	52
			58	09	53
			1200	11	54
			02	13	55
			1204:03	1215:50	1156:38
			06		57
			08		58
			10		59
			12		1200
			1214:03		1201:38
					02
					03
					04
					05
					1206:38
					07
					08
					09
					10
					101
					59
					838
					895
					1115
					596
					330
					170
					143
					90
					46
					24
					14
					7
					11
					0
					4
					0
					1
					0
					13
					54
					19
					4
					2

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 28 11 October 1964 Tracer Release: Site B (1105 to 1205 CST) Arc: 5; Azi(deg): 337.6 R(m): 4120 ; Drum No. 5	Experiment No. 28 11 October 1964 Tracer Release: Site B (1105 to 1205 CST) Arc: 7; Azi(deg): 324.4 R(m): 17150; Drum No. 7	Experiment No. 28 Tracer Release: Site (to CST) Arc: ; Azi(deg): R(m): ; Drum No. 7(cont)	Experiment No. 29 12 October 1964 Tracer Release: Site A (2000 to 2100 CST) Arc: 1; Azi(deg): 105.7 R(m): 770 ; Drum No. 9	Experiment No. 30 16 October 1964 Tracer Release: Site B (2000 to 2100 CST) Arc: 4; Azi(deg): 323.4 R(m): 1940; Drum No. 9	Experiment No. 30 Tracer Release: Site to CST) Arc: Azi(deg): R(m): ; Drum No.9 (Cont)
Time (CST)	Time (CST)	Time (CST)	Time (CST)	Time (CST)	Time (CST)
Dosage (Part.)	Dosage (Part.)	Dosage (Part.)	Dosage (Part.)	Dosage (Part.)	Dosage (Part.)
1141:14	1139:28	1229:28	2017:15	2009:00	2041:12
43	41	31	18	09:19	43
45	43	33	19	10:12	45
47	45	35	20	11	47
	47	37	21	12	49
	1149:28	1239:28	2022:15	2013:12	2051:12
	51	41	23	14	53
	53	43	24	15	55
	55	45	25	16	57
	57	47	26	17	59
	1159:28	1249:28	2027:15	2018:12	
	1201	51	28	19	49
	03	53		20	26
	05	55		21	27
	07	57		22	16
					18
	1209:28	1259:28		2023:12	
	11	1301		24	14
	13	03		25	11
	15	05		26	19
	17	07		27	10
					15
	1219:28	1309:28		2028:12	
	21	11		29	9
	23			30	12
	25			31	21
	27			32	15
					2
				2033:12	
				34	4
				35	2
				36	5
				37	7
					8
				2038:12	
				39	4
					4

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

[illegible]

k Part of measured dosage assumed to be contamination; no satisfactory method discovered for adjusting listed sequential patterns.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 32				Experiment No. 32				Experiment No. 32				Experiment No. 32				Experiment No. 32			
Tracer Release:Site (to CST)				Tracer Release:Site (to CST)				Tracer Release:Site (to CST)				Tracer Release:Site (to CST)				Tracer Release:Site (to CST)			
Arc: 2; Azi(deg): 122.6				Arc: 2; Azi(deg): 122.6				Arc: 2; Azi(deg): 138.7				Arc: 2; Azi(deg): 160.2				Arc: 2; Azi(deg): 160.2			
R(m): ; Drum No. 4				R(m): ; Drum No. 4				R(m): ; Drum No. 5				R(m): ; Drum No. 5				R(m): ; Drum No. 5			
Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
2041:57	26	2038:35	8	2103:35	42	2028:40	24	2053:40	907	1956:04	9	2001:04	281	2006:04	730	2011:04	1132	2016:04	723
42	28	39	15	04	52	29	56	54	887	57	21	02	529	07	798	12	17	17	750
43	10	40	11	05	58	30	77	55	1210	58	43	03	676	08	812	13	18	18	989
44	7	41	7	06	77	31	66	56	1044	59	47	04	600	09	812	14	19	19	730
45	9	42	7	07	66	32	56	57	678	2000	47	05	648	10	880	15	20	20	777
2046:57	9	2043:35	7	2108:35	56	2033:40	24	2058:40	663	2001:04	281	2006:04	730	2011:04	1132	2016:04	723	2016:04	723
47	7	44	6	09	76	34	76	59	464	57	21	02	529	07	798	12	17	17	750
48	7	45	6	10	45	35	45	2100	658	58	43	03	676	08	812	13	18	18	989
49	3	46	1	11	19	36	19	01	546	59	47	04	600	09	812	14	19	19	730
50	6	47	3	12	15	37	15	02	510	2000	47	05	648	10	880	15	20	20	777
2051:57	7	2048:35	7	2113:35	13	2038:40	229	2103:40	117	2006:04	730	2011:04	1132	2016:04	723	2016:04	723	2016:04	723
52	5	49	10	14	11	39	517	04	41	57	21	02	529	07	798	12	17	17	750
53	16	50	0	15	8	40	459	05	26	58	43	03	676	08	812	13	18	18	989
54	8	51	1	16	4	41	653	06	21	59	47	04	600	09	812	14	19	19	730
55	7	52	7	17	3	42	969	07	13	2000	47	05	648	10	880	15	20	20	777
2056:57	5	2053:35	11	2118:35	4	2043:40	729	2108:40	12	2006:04	730	2011:04	1132	2016:04	723	2016:04	723	2016:04	723
57	2	54	11	19	1	44	842	09	14	57	21	02	529	07	798	12	17	17	750
58	2	55	7	20	8	45	603	10	4	58	43	03	676	08	812	13	18	18	989
59	8	56	15			46	505	11	13	59	47	04	600	09	812	14	19	19	730
2100	9	57	7			47	882	12	5	2000	47	05	648	10	880	15	20	20	777
2101:57	3	2058:35	18				862	2113:40	5	2006:04	730	2011:04	1132	2016:04	723	2016:04	723	2016:04	723
02:57	7	59	31			49	691	14	5	2006:04	730	2011:04	1132	2016:04	723	2016:04	723	2016:04	723
03:55	5	2100	48			50	725	15	1	2006:04	730	2011:04	1132	2016:04	723	2016:04	723	2016:04	723
		01	62			51	696	16	2	2006:04	730	2011:04	1132	2016:04	723	2016:04	723	2016:04	723
		02	48			52	818	17	10	2006:04	730	2011:04	1132	2016:04	723	2016:04	723	2016:04	723

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 32				Experiment No. 33				Experiment No. 33			
Tracer Release:Site (to CST)				Tracer Release:Site (to CST)				Tracer Release:Site (to CST)			
Arc: ; Azi(deg):				Arc: ; Azi(deg):				Arc: ; Azi(deg):			
R(m): ; Drum No. 12(cont)				R(m): ; Drum No. 3(cont)				R(m): ; Drum No. 8			
Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
2021:04	1037	2034:34	8	1924:48	9	1959:48	304	1934:36	15	2034:36	1814
22	587	36	6	25	13	2000	382	36	129	36	1719
23	292	38	2	26	3	01	564	38	351	38	1657
24	184	40	2	27	1	02	451	40	382	40	1780
25	184	42	2	28		03	230	42		42	1596
2026:04	146	2044:34	1	1929:48	16	2004:48	194	1944:36	409	2044:36	1930
27	117	46	36	30	13	05	87	46	614	46	1514
28	90	48	341	31	18	06	363	48	1248	48	1364
29	48	50	560	32	0	07	47	50	2790	50	1344
30	53	52	714	33	3	08	70	52	2846	52	1030
2031:04	22	2054:34	985	1934:48	13	2009:48	21	1954:36	2734	2054:36	771
32	19	56	1166	35	16	10	34	56	2734	56	512
33	16	58	797	36	32	11	15	58	1487	58	368
34	5	2100	648	37	11	12	17	2000	1248	2100	222
35	10	02	758	38	12	13	16	02	1071	02	137
2036:04	3	2104:34	739	1939:48	4	2014:48	5	2004:36	1309	2104:36	80
37	5	06	855	40	52	15	2	06	1330	06	48
		08	985	41	63	16	10	08	1480	08	30
		10	972	42	100	17	7	10	1214	10	22
		12	680	43	46	18	1	12	859	12	13
		2114:34	661	1944:48	2	2019:48	8	2014:36	798	2114:36	15
		16	544	45	10	20	3	16	846	16	12
		18	752	46	3	21	6	18	798	18	7
		20	241	47	48	22	1	20	825	20	10
		22	173	48	4	23	2	22	1439	22	3
		2124:34	81	1949:48	205	2024:48	3	2024:36	1337	2124:36	5
		26	36	50	4	25	5	26	1255	26	11
		28	5	51	11			28	1719	28:36	3
		30	5	52	6			30	1528	30:33	24
		32	5	53	63			32	1698	32	24
		2134:34	4	1954:48	107						
		36	6	55	84						
		38	5	56	217						
		40	1	57	284						
		42	5	58	397						
		2144:34	3								
		46	5								

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 35 6 March 1965 Tracer Release: Site A (1230 to 1330 CST) Arc: 1; Azi(deg): 137.9 R(m): 670 ; Drum No. 41		Experiment No. 36 7 March 1965 Tracer Release: Site A (1230 to 1330 CST) Arc: 1 ; Azi(deg): 154.5 R(m): 600 ; Drum No. 4m		Experiment No. 36 7 March 1965 Tracer Release: Site A (1230 to 1330 CST) Arc: 2; Azi(deg): 160.2 R(m): 3180; Drum No. 10		Experiment No. 36 7 March 1965 Tracer Release: Site A (1230 to 1330 CST) Arc: 3; Azi(deg): 145.0 R(m): 6380; Drum No. 8		Experiment No. 36 7 March 1965 Tracer Release: Site A (1230 to 1330 CST) Arc: 3; Azi(deg): 159.3 R(m): 6960; Drum No. 7m	
Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
1303:35 04 05 06 07	5 5 3 3	1233:10 34 35 36 37	(6) (67) (217) (345)	1240:54 42 44 46 48	267 560 1002 170	1327:57 29 31 33 35	7 15 5 55	1248:22 50 52 54 56	(6) (27) (54) (30)
1308:35 09 10 11 12	54 51 4 1 0	1238:10 39 40 41 42	(326) (23) (23) (58) (137)	1250:54 52 54 56 58	49 65 583 823 739	1337:57 39 41 43 45	212 194 75 18 13	1258:22 1300 02 04 06	(10) (3) (30) (17) (1)
1313:35 14 15 16 17	4 2 2 5 3	1243:10 44 45 46 47	(66) (12) (6) (2) (2)	1300:54 02 04 06 08	492 1244 1231 868 629	1347:57 49 51 53 55	30 29 100 43 28	1308:22 10 12 14 16	(29) (58) (164) (294) (104)
1318:35 19 20 21 22	7 12 11 14 1	1248:10 49 50 51 52	(9) (21) (18) (34) (42)	1310:54 12 14 16 18	241 428 98 10 2	1357:57 59 1401 03	27 23 4 3	1318:22 20 22 24 26	(88) (21) (29) (17) (5)
1323:35 24 25 26 27	1 17 47 4 0	1253:10 54 55 56 57	(28) (35) (2) (3) (1)	1320:54 22 24 26	2 9 54 10	1328:22 30	(6) (5)		
1328:35 29 30 31 32	1 1 27 5 118								
1333:35 34 35 36 37	342 103 377 57 5								

Measured dosage disregarded
(Table IV); sequential dosage
patterns listed in parentheses
sampler seemed to be operating
improperly.

^mMeasured dosage disregarded (Table IV); sequential dosage patterns listed here in parentheses; rain cover blew over intake orifice at an unknown time.

^lSampler operated improperly until about 1302 CST; adjustment to the measured dosage considered unnecessary.

ⁿMeasured dosage disregarded (Table IV); sequential dosage patterns listed in parentheses; sampler seemed to be operating improperly.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 37				Experiment No. 37				Experiment No. 37				Experiment No. 38				Experiment No. 38			
8 March 1965				8 March 1965				8 March 1965				11 March 1965				11 March 1965			
Tracer Release: Site A				Tracer Release: Site A				Tracer Release: Site A				Tracer Release: Site A				Tracer Release: Site A			
(2030 to 2130 CST)				(2030 to 2130 CST)				(2030 to 2130 CST)				(2030 to 2130 CST)				(2030 to 2130 CST)			
Arc: 1; Azi(deg): 110.9				Arc: 3; Azi(deg): 116.7				Arc: 3; Azi(deg): 116.7				Arc: 1; Azi(deg): 35.4				Arc: 1; Azi(deg): 35.4			
R(m): 740; Drum No. 4				R(m): 640; Drum No. 8				R(m): 640; Drum No. 8				R(m): 910; Drum No. 40				R(m): 910; Drum No. 40			
Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
2023:44		2053:44	17680	2123:44	20000	2046:23		2012:55		2042:55		2047:55		2052:55		2057:55		2102:55	
24	3	54	12120	24	20000	48	17	13	(11)	43	(24)	48	(9)	53	(26)	58	(11)	03	(10)
25	5	55	17640	25	20000	50	11	14	(49)	44	(30)	49	(39)	54	(15)	59	(32)	04	(18)
26	13	56	20320	26	25000	52	54	15	(40)	45	(20)	50	(18)	55	(9)	2100	(10)	05	(6)
27	3	57	19520	27	27000	54	22	16	(41)	46	(25)	51	(9)	56	(13)	01	(39)	06	(22)
2028:44	6	2058:44	20160	2128:44	23000	2056:23	33	2017:55	(47)	2047:55	(24)	2047:55	(9)	2052:55	(26)	2057:55	(11)	2107:55	(14)
29	2	59	20000	29	27000	58	10	18	(36)	48	(30)	48	(39)	53	(15)	58	(32)	08	(20)
30	3	2100	32000	30	23000	2100	15	19	(52)	49	(20)	49	(39)	54	(15)	59	(32)	09	(20)
31	3	01	35000	31	20000	02	54	20	(45)	50	(14)	50	(18)	55	(9)	2100	(10)	10	(15)
32	536	02	32000	32	26000	04	129	21	(30)	51	(25)	51	(16)	56	(15)	01	(11)	11	(30)
2033:44	7680	2103:44	40000	2133:44	24000	2106:23	277	2022:55	(45)	2052:55	(26)	2052:55	(26)	2057:55	(11)	2057:55	(11)	2102:55	(10)
34	9720	04	40000	34	20000	08	201	23	(29)	53	(15)	53	(15)	58	(32)	58	(32)	03	(18)
35	8880	05	26000	35	2213	10	137	24	(53)	54	(9)	54	(9)	59	(32)	59	(32)	04	(6)
36	7960	06	15000	36	298	12	243	25	(68)	55	(13)	55	(13)	2100	(39)	2100	(39)	05	(13)
37	12840	07	18000	37	177	14	119	26	(55)	56	(15)	56	(15)	01	(11)	01	(11)	06	(22)
2038:44	14960	2108:44	40000	2138:44	89	2116:23	15	2027:55	(73)	2057:55	(11)	2057:55	(11)	2057:55	(11)	2057:55	(11)	2102:55	(10)
39	13200	09	40000	39	37	18	45	28	(79)	58	(32)	58	(32)	58	(32)	58	(32)	03	(18)
40	16920	10	40000	40	40	20	19	29	(45)	59	(32)	59	(32)	59	(32)	59	(32)	04	(6)
41	17080	11	26000	41	28	22	7	30	(15)	2100	(39)	2100	(39)	2100	(39)	2100	(39)	05	(13)
42	17640	12	35000	42	65	22		31	(14)	01	(11)	01	(11)	01	(11)	01	(11)	06	(22)
2043:44	15280	2113:44	20000	2143:44	44	2032:55	15	2032:55	(32)	2102:55	(10)	2102:55	(10)	2102:55	(10)	2102:55	(10)	2102:55	(10)
44	15920	14	20000	44	82	33	45	33	(49)	2102:55	(10)	2102:55	(10)	2102:55	(10)	2102:55	(10)	03	(18)
45	11200	15	25000	45	22	34	19	34	(33)	2102:55	(10)	2102:55	(10)	2102:55	(10)	2102:55	(10)	04	(6)
46	10920	16	30000	46	52	35	7	35	(17)	2102:55	(10)	2102:55	(10)	2102:55	(10)	2102:55	(10)	05	(13)
47	13080	17	25000	47	4	36		36	(22)	2102:55	(10)	2102:55	(10)	2102:55	(10)	2102:55	(10)	06	(22)
2048:44	15240	2118:44	20000	2148:44	7	2037:55	15	2037:55	(12)	2107:55	(14)	2107:55	(14)	2107:55	(14)	2107:55	(14)	2107:55	(14)
49	16160	19	20000	49	9	38	45	38	(17)	2107:55	(14)	2107:55	(14)	2107:55	(14)	2107:55	(14)	08	(20)
50	14920	20	20000	50	14	39	19	39	(19)	2107:55	(14)	2107:55	(14)	2107:55	(14)	2107:55	(14)	09	(20)
51	17640	21	20000	51	30	40	7	40	(35)	2107:55	(14)	2107:55	(14)	2107:55	(14)	2107:55	(14)	10	(15)
52	22040	22	26000	52	3	41		41	(16)	2107:55	(14)	2107:55	(14)	2107:55	(14)	2107:55	(14)	11	(30)

^oMeasured dosage considered to be entirely contamination; sequential patterns listed here in parentheses.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 38				Experiment No. 39				Experiment No. 39			
Tracer Release:Site (to CST)				Tracer Release:Site (to CST)				Tracer Release:Site (to CST)			
Arc: 1; Azi(deg): 68.9 R(m): ; Drum No. 40(cont)R(m): ; Drum No. 3				Arc: 1; Azi(deg): 110.9 R(m): 740; Drum No. 4				Arc: ; Azi(deg): R(m): ; Drum No.4(cont) R(m): ; Drum No. 4(cont)			
Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
2112:55	(4) (10) (6) (7) (11)	2142:55 43 44 45 46	(3) (2) (5) (9) (7)	1222:38 23 24 25 26	15 4 0 4	1252:38 53 54 55 56	6 5 232 156 205	1322:38 23 24 25 26	1158 1046 510 2050 357		
2117:55	(9) (10) (8) (6) (4)	2147:55 48 49 50 51	(12) (7) (6) (6) (5)	1227:38 28 29 30 31	2 5 9 6	1257:38 58 59 1300 01	59 29 2 5 12	1327:38 28 29 30 31	192 218 607 423 135		
2122:55	(11) (21) (6) (6) (11)	2152:55 53 54 55 56	(8) (11) (5) (3) (14)	1232:38 33 34 35 36	13 3 2 20 29	1302:38 03 04 05 06	11 7 2 3 5	1332:38 33 34 35 36	188 106 19 3 4		
2127:55	(17) (12) (13) (11) (5)	2157:55 58:10	(58) (4)	1237:38 38 39 40 41	6 6 6 10 3	1307:38 08 09 10 11	17 8 11 3 2	1337:38 38 39 40 41	2 5 7 8 3		
2132:55	(12) (6) (14) (5) (6)	1242:38 43 44 45 46	28 9 1 0 1	1242:38 43 44 45 46	28 9 1 0 1	1312:38 13 14 15 16	3 3 1 2 0	1342:38 43 44 45 46	4 6 11 4 9		
2137:55	(3) (8) (16) (13) (8)	1247:38 48 49 50 51	8 1 2 2 1	1247:38 48 49 50 51	8 1 2 2 1	1317:38 18 19 20 21	150 281 241 523 1576	1347:38 48	5 8		

Measured dosage
considered to be
entirely contamination;
sequential patterns
listed here in paren-
theses.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

[illegible]

9 Sampler probably turned off before entire tracer dosage adjusted (Table IV) but no satisfactory method discovered for adjusting listed sequential patterns.

PSampler probably turned off before entire tracer cloud reached it. Total dosage adjusted (Table IV) but no satisfactory method discovered for adjusting listed sequential patterns.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

[illegible]

9. Sampler turned off before entire tracer cloud reached it. Total dosage adjusted (Table IV) but no satisfactory method discovered for adjusting listed sequential patterns.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

[illegible]

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 40				Experiment No. 41				Experiment No. 41			
14 March 1965				15 March 1965				15 March 1965			
Tracer Release:Site A				Tracer Release:Site A				Tracer Release:Site A			
(1100 to 1200 CST)				(2050 to 2150 CST)				(2050 to 2150 CST)			
Arc: 3; Azi(deg): 128.5				Arc: 1; Azi(deg): 110.9				Arc: 3; Azi(deg): 113.5			
R(m): 6670; Drum No. 7				R(m): 740 ; Drum No. 8				R(m): 6410; Drum No. 4s			
Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
1126:12	7	2153:30	9	2139:00	6	2149:37	11	2100:00	(216)	2200:00	(9)
28	47	54	27	40	3	51	43	02	(6)	02	(6)
30	245	55	43	41	17	53	157	04	(17)	04	(3)
32	308	56	134	42	255	55	346	06	(7)	06	(5)
34		57		43		57		08	(26)	08	(12)
1136:12	288	2158:30	238	2144:00	774	2159:37	696	2110:00	(10)	2210:00	(6)
38	6	59	671	45	252	2201	1306	12	(19)	12	(26)
40	130	2200	604	46	396	03	1150	14	(32)	14	(23)
42	267	01	618	47	15000	05	1910	16	(32)	16	(16)
44	493	02	781	48	17400	07	1811	18	(27)	18	(19)
1146:12	571	2203:30	895	2149:00	20000	2209:37	1640	2120:00	(9)	2220:00	(12)
48	141	04	838	50	21600	11	1953	22	(11)	22	(18)
		05	753	51	20800	13	1647	24	(22)	24	(6)
		06	909	52	22200	15	1839	26	(13)	26	(12)
		07	596	53	18800	17	1374	28	(9)	28	(6)
		2208:30	689	2154:00	21000	2219:37	881	2130:00	(12)	2230:00	(13)
		09	547	55	16000	21	849	32	(6)	32	(15)
		10	746	56	22400	23	1186	34	(21)	34	(14)
		11	753	57	13800	25	1380	36	(16)	36	(11)
		12	405	58	18000	27	1147	38	(26)	38	(16)
		2213:30	180	2159:00	15000	2229:37	1192	2140:00	(14)	2240:00	(10)
		14	99	2200	15800	31	985	42	(11)	42	(17)
		15	145	01	16200	33	137	44	(6)	44	(9)
		16	288	02	16800			46	(5)	46	(18)
		17	222	03	17200			48	(13)	48	(14)
		2218:30	88	2204:00	13800			2250:00	(14)	2250:00	(15)
		19	18	05	14400			52	(4)	52	(24)
		20	6	06	14600			54	(8)	54	(30)
				07	20000			56:00	(12)	56:00	(57)
				08	18000			56:50	(11)	56:50	(15)

Total dosage adjusted (Table IV), but no satisfactory method discovered for adjusting listed, sequential patterns.

Sequential dosage patterns listed in parentheses; measured dosage considered to be entirely contamination.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 42 16 March 1965	Experiment No. 42 16 March 1965	Experiment No. 42 16 March 1965	Experiment No. 42 16 March 1965
Tracer Release:Site B (2030 to 2130 CST) Arc: 4; Azi(deg): 307.2 R(m): 1930 ; Drum No.2	Tracer Release:Site (to CST) Arc: ; Azi(deg): R(m): ; Drum No.2(cont)	Tracer Release:Site B (2030 to 2130 CST) Arc: 5; Azi(deg): 296.1 R(m): ; Drum No. 10	Tracer Release:Site (to CST) Arc: ; Azi(deg): R(m): ; Drum No. 10(cont)
Time (CST)	Time (CST)	Time (CST)	Time (CST)
Dosage (Part.)	Dosage (Part.)	Dosage (Part.)	Dosage (Part.)
2052:18	2122:18	2106:17	2054:06
53	23	08	56
54	24	10	58
55	25	12	2100
56	26	14	02
34	2127:18	2116:17	2104:06
8	28	18	06
58	29	20	08
59	30	22	10
2100	31	24	12
01			
2102:18	2132:18	2126:17	2114:06
03	33	28	16
04	34	30	18
05	35	32	20
06	36	34	22
232	2137:18	2136:17	2124:06
69	38	38	26
32	39	40	28
26	40	42	
24	41	44	
53	2142:18	2146:17	
57	43	48	
85		50	
111		52	
438		54	
601		2056:17	
615		58	
522		2100	
489		02	
438		04	

^t Sequential dosage patterns
listed in parentheses;
measured dosage considered
to be entirely contamination.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 42				Experiment No. 42				Experiment No. 43				Experiment No. 43			
16 March 1965				16 March 1965				17 March 1965				Tracer Release:Site A			
Tracer Release:Site B				Tracer Release:Site B				Tracer Release:Site A				Tracer Release:Site			
(2030 to 2130 CST)				(2030 to 2130 CST)				(2000 to 2100 CST)				(to CST)			
Arc: 6; Azi(deg): 299.8				Arc: 6; Azi(deg): 308.5				Arc: 1; Azi(deg): 105.7				Arc: ; Azi(deg):			
R(m): 7610 ; Drum No. 5				R(m): 8230; Drum No. 7 ^a				R(m): 7640; Drum No. 8 ^v				R(m): ; Drum No.1(cont) R(m): ; Drum No.1(cont)			
Time (CST)	Dosage (Part.)			Time (CST)	Dosage (Part.)			Time (CST)	Dosage (Part.)			Time (CST)	Dosage (Part.)	Time (CST)	Dosage (Part.)
2048:02				2115:40				2001:04				2026:04		2051:04	
50	7			17	(13)			02	974			27	1729	52	2913
52	19			19	(5)			03	7540			28	2414	53	3542
54	16			21	(6)			04	15200			29	834	54	3262
56	22			23	(3)			05	9700			30	2465	55	4078
													1971		3099
2058:02				2125:40				2006:04				2031:04		2056:04	
2100	29			27	(14)			07	13400			32	1114	57	3658
02	25				(11)			08	12400			33	2153	58	3775
04	24							09	7400			34	2721	59	3332
06	45							10	8200			35	2344		2447
	63								17600				2330	2100	2144
2108:02								2011:04				2036:04		2101:04	
10	43							12	17200			37	2731	02	3192
12	38							13	10300			38	1184	03	3448
14	211							14	6300			39	438	04	1058
16	226							15	2018			40	760	05	75
	444								1901				1407		19
2118:02								2016:04				2041:04		2106:04	
20	557							17	881			42	1654	07	12
22	602							18	345			43	2409	08	6
24	811							19	14			44	2624	09	12
26	612							20	4			45	3453	10	10
	597								22				15480	10	11
2128:02								2021:04				2046:04		2111:04	
30	383							22	3113			47	2036	12:04	6
32	207							23	2628			48	2866	12:59	7
34	46							24	624			49	3169		8
36	41							25	2083			50	3332		
	28								1254				2703		
2138:02															
40	14														
42	11														
	4														

^vSequential dosage patterns listed in parentheses; measured dosage considered to be entirely contamination.

^aPlastic rain cover blew over intake orifice at an unknown time. Total dosaged was adjusted (Table IV), but no satisfactory method discovered for adjusting listed, sequential patterns.

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

[illegible]

Table 5 (continued). SEQUENTIAL DOSAGES AT SURFACE

Experiment No. 43 17 March 1965 Tracer Release: Site A (2000 to 2130 CST) Arc: 3; Azi(deg): 84.7 R(m): 7240; Drum No. 4 ^w	Experiment No. 43 17 March 1965 Tracer Release: Site A (2000 to 2130 CST) Arc: 3; Azi(deg): 97.8 R(m): 6910; Drum No. 8	Experiment No. 43 17 March 1965 Tracer Release: Site A (2000 to 2130 CST) Arc: 3; Azi(deg): 116.7 R(m): 6410; Drum No. 7
Time (CST)	Time (CST)	Time (CST)
2019:00	2012:23	2027:46
21	14	29
23	16	31
25	18	33
27	20	35
2029:00	2022:23	2037:46
31	24	39
33	26	41
35	28	43
37	30	45
2039:00	2032:23	2047:46
41	34	49
	36	51
	38	53
	40	55
	2042:23	2057:46
	44	
	46	
	48	
	50	
	2052:23	
	54	
	56	
	58	
	2100	
	2102:23	
	04	
	06	
	08	
	10	
	2112:23	
	14	
	16	

^wSequential dosage patterns listed in parentheses; measured dosage considered to be entirely contamination.

TABLE 6. TOTAL VERTICAL DISTRIBUTION OF ROTOROD DOSAGES

Symbols

Z (ft)	:	Height in whole feet of sampler above the surface
Dosage (Part)	:	Number of (fluorescent) particles
X, Part/m ³	:	Equivalent concentration, particles per cubic meter
Site A	:	Forest Park
Site B	:	Roof of the Knights of Columbus Building

Table 6 (continued). VERTICAL ROTOROD DOSAGES

Experiment No. 18 ^a										Experiment No. 21										Experiment No. 32										Experiment No. 36									
9 April 1964 Tracer Release: Site A (2045 to 2145 CST) Azimuth: 030.9° Range: 1450 m										4 June 1964 Tracer Release: Site B (1040 to 1130 CST) Azimuth: 358.6° Range: 1480 m										19 October 1964 Tracer Release: Site A (1945 to 2045 CST) Azimuth: 139.3° Range: 3380 m										7 March 1965 Tracer Release: Site A (1230 to 1330 CST) Azimuth: 163.6° Range: 2610 m									
Z(ft)	Time On (CST)	Time Off (CST)	Dosage (Part.)	X Part./m ³	Z(ft)	Time On (CST)	Time Off (CST)	Dosage (Part.)	X Part./m ³	Z(ft)	Time On (CST)	Time Off (CST)	Dosage (Part.)	X Part./m ³	Z(ft)	Time On (CST)	Time Off (CST)	Dosage (Part.)	X Part./m ³	Z(ft)	Time On (CST)	Time Off (CST)	Dosage (Part.)	X Part./m ³															
286	2035	2202	1,204	799	736	1024	1159	9,653	6,503	853	1947	2111	2,206	1,462	812	1221	1402	5,188	3,438																				
198	2037	2200	43,162	28,647	357	1020	1145	8,853	5,694	383	1948	2107	12,432	8,237	368	1226	1356	4,504	2,984																				
115	2043	2158	629,315	417,676	164	1027	1142	5,068	3,414	6	1949	2102	12,576	8,333	6	1227	1345	8,137	5,392																				
6	2045	2205	933,960	619,869	6	1030	1136	1,330	896																														
Experiment No. 25										Experiment No. 26										Experiment No. 39																			
10 June 1964 Tracer Release: Site A (1033 to 1133 CST) Azimuth: 154.2° Range: 2790 m										11 June 1964 Tracer Release: Site B (1035 to 1135 CST) Azimuth: 291.8° Range: 9820 m										13 March 1965 Tracer Release: Site A (1220 to 1320 CST) Azimuth: 092.4° Range: 3130 m																			
Z(ft)	Time On (CST)	Time Off (CST)	Dosage (Part.)	X Part./m ³	Z(ft)	Time On (CST)	Time Off (CST)	Dosage (Part.)	X Part./m ³	Z(ft)	Time On (CST)	Time Off (CST)	Dosage (Part.)	X Part./m ³	Z(ft)	Time On (CST)	Time Off (CST)	Dosage (Part.)	X Part./m ³	Z(ft)	Time On (CST)	Time Off (CST)	Dosage (Part.)	X Part./m ³															
550	1011	1156	796	526	600	1044	1226	75	50	1044	1220	1355	2,982	1,979																									
6	1035	1155	3,105	2,051	6	1050	1220	520	345	544	1224	1351	3,053	2,026	6	1228	1356	4,074	2,704																				
Experiment No. 28										Experiment No. 30										Experiment No. 34																			
11 October 1964 Tracer Release: Site B (1105 to 1205 CST) Azimuth: 331.6° Range: 1530 m										16 October 1964 Tracer Release: Site B (2000 to 2100 CST) Azimuth: 358.6° Range: 1480 m										13 March 1965 Tracer Release: Site A (1220 to 1320 CST) Azimuth: 092.4° Range: 3130 m																			
Z(ft)	Time On (CST)	Time Off (CST)	Dosage (Part.)	X Part./m ³	Z(ft)	Time On (CST)	Time Off (CST)	Dosage (Part.)	X Part./m ³	Z(ft)	Time On (CST)	Time Off (CST)	Dosage (Part.)	X Part./m ³	Z(ft)	Time On (CST)	Time Off (CST)	Dosage (Part.)	X Part./m ³	Z(ft)	Time On (CST)	Time Off (CST)	Dosage (Part.)	X Part./m ³															
817	1049	1231	7,992	5,304	998	1950	2135	513	340																														
438	1051	1225	8,856	5,878	499	1955	2132	1,198	795																														
6	1115	1216	9,139	6,065	6	1956	2125	18	12																														

^a No adjustments in the measured dosages were made, but analysis of all the experimental data indicates that the values for the two upper levels and the two lower levels may be too high and too low, respectively.

TETROON OBSERVATIONS

Tetroons were normally released from the tracer dissemination site 15 minutes after the beginning of dissemination. They were ballasted to float either at 500, 1000, or 1500 feet above the surface. Equipment failure resulted in loss of some data.

The transponder signal was tracked on the Plan Position Indicator scope of the WSR-57 radar at Lambert Field. The azimuth in degrees and range in nautical miles (n.m.) of the tetroon from this site were usually recorded at 2-minute intervals. Because the signal was received as a "blip" of defined length and width, either the mean range and the mean azimuth or the mean range and two azimuths (representing the edges of the blip) were reported. When the tetroon was very close to the radar site, the signal was displayed as a blip so large that a mean azimuth and range could only be estimated. The accuracies of units reported in Table 7 for each tetroon release are those measured.

Table 7. TETROON OBSERVATIONS

Experiment No. 4 19 July 1963 Tracer Release: Site A (1130 to 1230 CST) Ascension Start: 1145 CST Tetroon Flight Level: 1000 ft				Experiment No. 5 22 July 1963 Tracer Release: Site B (1104 to 1204 CST) Ascension Start: 1130 CST Tetroon Flight Level: 1000 ft				Experiment No. 6 23 July 1963 Tracer Release: Site B (1130 to 1230 CST) Ascension Start: 1145 CST Tetroon Flight Level: 1000 ft				Experiment No. 7 25 July 1963 Tracer Release: Site B (1040 to 1140 CST) Ascension Start: 1110 CST Tetroon Flight Level: 1000 ft				Experiment No. 7 (cont.) Tracer Release: Site (to CST) Ascension Start: CST Tetroon Flight Level: 1000 ft				Experiment No. 8 26 July 1963 Tracer Release: Site B (1045 to 1145 CST) Ascension Start: 1100 CST Tetroon Flight Level: 1000 ft			
Time (CST)	Azimuths (deg)	Range (nm)		Time (CST)	Azimuths (deg)	Range (nm)		Time (CST)	Azimuths (deg)	Range (nm)		Time (CST)	Azimuths (deg)	Range (nm)		Time (CST)	Azimuths (deg)	Range (nm)		Time (CST)	Azimuths (deg)	Range (nm)	
1145	137.0	142.5	9.0	1135	142.0	160.0	11.20	1147	144.4	149.4	11.45	1110	144.5	149.0	11.70	1230	303.0	316.5	-	1102	143.0	149.7	11.15
--	Transponder signal lost			37	131.5	153.0	11.10	49	145.0	150.8	11.10	12	145.0	151.0	11.74	32	271.0	293.5	4.25	04	142.0	151.0	10.75
1208	123.8	137.5	9.50	39	136.5	150.5	11.00	51	145.2	150.2	10.85	14	145.2	152.0	10.90	34	275.0	287.7	4.40	06	142.8	149.2	10.36
10	118.6	126.5	9.40	41	135.5	152.5	11.00	53	144.9	150.2	10.45	16	146.4	152.0	10.60	36	275.0	293.0	4.70	08	139.8	155.7	9.96
--	Transponder signal lost			43	128.5	150.0	10.90	55	145.4	149.5	10.10	18	144.6	151.0	10.35	--	Transponder signal lost			10	141.8	155.5	9.45
1222	104.5	111.5	7.70	1145	134.5	144.4	10.90	1157	148.0	152.9	9.82	1120	144.5	151.7	10.00	1242	290.0	298.0	5.48	1112	138.4	150.2	9.05
24	102.7	108.5	10.90	47	133.0	146.0	11.00	59	146.5	152.5	9.55	22	144.6	151.3	9.70	44	291.4	298.5	5.70	14	137.7	152.5	8.57
26	101.5	106.7	11.10	49	132.5	143.0	10.90	1201	146.8	153.9	9.20	24	144.2	150.6	9.35	46	291.7	301.6	6.00	16	139.5	147.8	8.12
28	099.5	105.5	11.50	51	131.0	143.0	10.85	03	147.9	153.5	8.80	26	143.9	151.1	9.04	48	291.5	300.6	6.40	18	136.8	147.3	7.60
30	096.4	103.0	12.00	53	127.0	143.5	10.75	05	149.0	154.6	8.50	28	145.5	151.1	8.55	50	293.4	301.5	6.75	20	134.2	148.0	7.63
1232	094.5	101.0	12.30	1155	129.5	140.7	10.45	1207	148.5	155.5	8.30	1130	144.9	152.1	8.20	1252	294.0	301.8	7.15	1122	135.3	145.3	6.86
34	093.5	98.5	12.60	57	130.5	141.5	10.45	09	150.0	156.4	8.10	32	144.1	153.0	7.85	54	295.5	303.0	7.60	24	133.5	146.0	6.50
36	091.6	95.7	12.95	59	128.3	141.0	10.35	11	151.0	155.9	7.80	34	147.7	153.0	7.36	56	296.0	303.5	8.15	26	134.7	149.5	6.15
38	088.5	93.7	13.40	1201	121.5	138.0	10.20	13	151.9	157.9	7.55	36	146.2	155.0	6.95	58	296.4	303.8	8.40	28	135.0	144.5	5.68
40	086.4	92.0	13.90	03	117.0	138.5	10.05	15	151.8	159.5	7.35	38	147.7	155.6	6.55	1300	296.7	303.4	8.80	30	128.2	142.0	5.23
1242	082.6	90.3	14.20	1205	126.0	135.5	10.00	1217	153.8	159.5	7.10	1140	152.0	158.3	6.20	1302	297.0	303.5	9.15	1132	120.5	147.0	4.78
44	081.5	89.5	14.60	07	122.5	137.5	9.90	19	154.1	161.2	6.85	42	151.5	162.3	6.00	04	297.0	303.5	9.70	34	126.8	141.5	4.30
46	080.5	87.0	15.25	--	Transponder signal lost			21	156.0	162.6	6.60	44	151.4	161.7	5.65	06	297.6	304.5	10.10	36	097.8	157.2	3.89
48	078.7	87.4	15.60	1215	114.5	138.0	9.10	23	157.4	166.5	6.35	46	151.6	161.4	5.35	08	298.6	305.6	10.30	38	111.0	139.5	3.53
50	079.0	84.5	16.10	17	122.2	129.3	8.90	25	159.0	167.0	6.20	48	152.0	165.7	5.05	10	301.6	305.7	10.60	40	103.0	127.0	3.19
--	Transponder signal lost			1219	119.5	134.3	8.75	1227	160.5	168.0	6.05	1150	153.2	163.4	4.69	1312	301.6	306.6	10.90	1142	-	-	2.90
1254	077.5	82.0	16.90	21	116.0	129.5	8.75	29	162.9	170.5	5.80	52	151.8	163.8	4.40	14	301.6	307.5	11.15	44	-	-	2.76
23	115.5	128.0	8.60	31	163.5	169.5	5.65	31	163.5	169.5	5.65	54	150.0	164.4	4.15	16	303.4	308.4	11.45	46	-	-	2.65
--	Transponder signal lost			33	165.5	173.5	5.50	33	165.5	173.5	5.50	56	157.5	-	3.68	18	304.0	308.5	11.79	48	078.0 ^a	-	2.59
1227	114.0	126.5	8.50	35	166.7	174.0	5.35	35	166.7	174.0	5.35	58	145.2	173.5	3.30	20	303.3	308.8	12.13	50	067.0 ^a	-	2.65
1229	115.5	124.5	8.35	1237	164.1	177.4	5.15	1200	164.1	177.4	5.15	1200	149.0	-	2.90	1322	304.0	309.8	12.49	1152	063.5 ^a	-	2.85
31	114.0	125.5	8.20	39	170.0	179.5	5.00	02	170.0	179.5	5.00	02	149.0	-	2.50	24	303.3	309.5	12.80	54	032.5	-	3.10
33	114.0	125.0	-	41	172.5	185.0	4.95	04	172.5	185.0	4.95	04	149.0	-	2.35	26	304.0	309.5	13.20	56	051.0	-	3.35
35	113.0	-	8.05	--	Transponder signal lost			06	172.5	185.0	4.95	06	149.0	-	2.00	28	304.6	310.4	13.60	58	-	-	3.49
--	Transponder signal lost			1251	188.0	207.5	4.50	1251	188.0	207.5	4.50	08	149.0	-	1.90	30	303.5	310.0	14.04	1200	040.1	338.0	3.89
1243	-	121.5	7.90	1253	190.0	205.6	4.45	1210	190.0	205.6	4.45	1210	-	180.0	1.80	1332	305.3	309.2	14.06	1202	013.0	-	4.35
45	099.5	110.5	7.80	55	194.5	203.5	4.34	12	194.5	203.5	4.34	12	-	214.0	1.95	34	304.5	309.0	14.95	04	025.0	-	4.78
47	088.0	103.0	7.80	57	198.6	204.8	4.30	14	198.6	204.8	4.30	14	-	257.0	2.00	36	303.8	308.0	15.34	06	007.8	-	5.10
49	086.5	104.5	7.70	59	201.8	209.3	4.12	16	201.8	209.3	4.12	16	-	247.0	2.30	38	304.6	309.0	15.78	08	004.0	019.2	5.58
51	092.0	104.5	7.55	1301	201.7	214.6	4.05	--	201.7	214.6	4.05	--	Transponder signal lost			40	303.3	308.4	16.15	10	003.0	015.2	6.05
--	Transponder signal lost			1303	206.0	222.0	3.95	1303	206.0	222.0	3.95	1212	360.0	015.2	6.35	1212	360.0	015.2	6.35	1212	360.0	015.2	6.35
1255	088.0	103.0	7.35	05	208.5	222.0	3.90	05	208.5	222.0	3.90	--	Transponder signal lost			--	Transponder signal lost			--	Transponder signal lost		
57	090.5	102.0	7.20									1216	002.0	004.5	7.20	1216	002.0	004.5	7.20	1216	002.0	004.5	7.20
												.18	001.0	003.0	7.55	.18	001.0	003.0	7.55	.18	001.0	003.0	7.55

^aApproximate values.

Table 7 (continued). TETROON OBSERVATIONS

Experiment No. 14					Experiment No. 14 (cont.)					Experiment No. 16					Experiment No. 20					Experiment No. 21					Experiment No. 21 (cont.)				
1 April 1964					Tracer Release:Site B (1200 to 1300 CST)					Tracer Release:Site A (1040 to 1140 CST)					Tracer Release:Site B (1030 to 1130 CST)					Tracer Release:Site (to CST)					Tracer Release:Site (to CST)				
Ascension Start:1215 CST					Ascension Start: CST					Ascension Start:2100 CST					Ascension Start:1056 CST					Ascension Start:1045 CST					Ascension Start: CST				
Tetron Flight Level:500 ft					Tetron Flight Level:					Tetron Flight Level:500 ft					Tetron Flight Level:1000 ft					Tetron Flight Level:1500 ft					Tetron Flight Level:				
Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)						
1219	145.5	151.0	10.3	003.5	009.6	14.4	2110	144.0	149.0	3.5	1117	136	10.8	1051	144	149	11.0	1147	176	180	8.6								
21	147.2	152.2	9.8	15	003.1	009.3	12	142.0	148.0	3.0	19	133	139	10.8	53	145	149	49	176	182	8.4								
23	146.1	152.5	8.9	17	003.1	009.0	14	141.6	146.0	3.4	21	133	139	11.2	55	145	150	51	177	183	8.5								
25	146.5	153.0	8.0	19	003.6	009.5	16	141.4	145.0	3.4	23	133	137	11.3	57	146	150	53	178	185	8.5								
27	146.2	153.4	7.2	21	003.3	008.6	18	142.0	143.9	3.4	25	133	137	11.5	59	147	152	55	180	187	8.4								
1229	145.5	152.6	6.5	1323	002.3	007.7	2120	141.0	143.5	3.0	1127	132	137	11.7	1101	146	153	1157	182	189	8.4								
31	143.5	151.6	5.7	25	002.5	008.2	22	141.2	143.0	3.0	29	132	137	12.0	03	146	153	59	184	190	8.3								
33	138.7	143.6	4.6	27	002.3	008.0	24	141.0	143.5	3.0	---	Transponder signal lost					05	147	153	1201	186	193	8.2						
35	129.3	140.0	3.9	29	004.3	007.7	26	141.0	143.9	3.3	1139	125	130	13.0	07	148	155	03	188	195	8.2								
37	108.4	134.3	3.3	31	003.6	007.8	28	141.0	143.0	3.3	41	127	129	13.0	09	149	153	05	190	196	8.1								
1239	104.7	116.5	2.8	1333	004.5	008.0	2130	141.0	142.5	3.8	1143	124	130	13.1	1111	150	154	---	Transponder signal lost										
41	075.0	111.3	2.7	35	003.9	007.6	32	140.8	143.5	3.5	45	124	129	13.2	13	150	155	1209	193	199	8.0								
43	076.2	-	2.7	37	002.2	005.5	34	141.0	142.8	4.0	47	122	128	13.3	15	152	156	11	194	201	8.1								
45	041.6	056.5	3.2	39	002.1	007.0	36	140.9	142.0	4.0	49	121	127	13.3	17	153	157	13	196	203	8.0								
47	031.8	048.5	3.6	41	004.4	006.6	38	140.8	142.0	4.0	---	Transponder signal lost					19	154	159	15	198	205	7.9						
1249	028.6	039.1	4.2	1343	002.0	007.1	2140	139.9	141.3	-	1155	120	125	13.5	1121	158	161	1217	202	208	7.8								
51	021.4	029.6	4.9	45	002.4	007.5	42	141.0	143.5	4.0	57	120	125	13.5	23	159	162	19	204	209	7.8								
53	016.6	024.5	5.7	---	RAREP					3.0	59	118	123	13.8	25	159	164	21	207	212	7.8								
55	015.5	021.4	6.4	1357	003.1	004.3	46	138.9	141.2	3.0	1201	117	119	14.0	27	160	165	23	209	216	7.8								
---	RAREP					48	140.0	141.0	3.0	03	117	120	14.2	29	162	168	9.2												
1303	006.6	013.6	9.9	2150	139.2	141.0	3.2	139.2	141.0	3.2	1205	117	122	14.6	1131	164	168	Transponder signal lost											
05	005.6	012.6	10.7	52	139.0	140.3	3.2	139.0	140.3	3.2	07	118	122	14.7	---	Transponder signal lost													
07	006.4	012.0	11.7	54	139.0	140.6	3.0	139.0	140.6	3.0	09	116	122	14.9	1135	164	169	9.0											
09	006.4	011.3	12.7	56	138.9	140.0	-						---	Transponder signal lost															
11	005.9	010.7	13.5	1213	115	120	15.2	115	120	15.2	1213	115	120	14.2	29	162	168	9.2											
					1215	115	119	15.7	115	119	15.7						1131	164	168	9.0									
					17	114	119	16.1	114	119	16.1						---	Transponder signal lost											
					19	114	119	16.2	114	119	16.2						1135	164	169	9.0									
					21	114	119	16.3	114	119	16.3						27	160	165	9.3									
					23	113	118	16.6	113	118	16.6						29	162	168	9.2									
					1225	112	117	16.7	112	117	16.7						1121	158	161	9.5									
					27	111	115	17.0	111	115	17.0						23	160	165	9.6									

Table 7 (continued). TETROON OBSERVATIONS

Experiment No. 22 6 June 1964 Tracer Release:Site A (1130 to 1230 CST) Ascension Start:1145 CST Tetroon Flight Level:1500 ft					Experiment No. 23 7 June 1964 Tracer Release:Site A (1132 to 1230 CST) Ascension Start:1145 CST Tetroon Flight Level:1500 ft					Experiment No. 24 9 June 1964 Tracer Release:Site A (1030 to 1130 CST) Ascension Start:1140 CST Tetroon Flight Level:1500 ft					Experiment No. 25 10 June 1964 Tracer Release:Site A (1033 to 1133 CST) Ascension Start:1045 CST Tetroon Flight Level:1000 ft					Experiment No. 26 11 June 1964 Tracer Release:Site B (1035 to 1135 CST) Ascension Start:1045 CST Tetroon Flight Level:1000 ft					Experiment No. 27 10 October 1964 Tracer Release:Site B (1130 to 1230 CST) Ascension Start:1145 CST Tetroon Flight Level:1500 ft					
Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	
1149	142	147	1149	140	147	1140	143	9.4	1140	143	9.2	1103	139	144	1047	149	154	1203	152.0	11.5	1203	152.0	11.5	1131	137	7.9	11	158.0	12.0	
51	140	146	51	139	145	42	137	9.2	42	137	8.6	05	139	144	49	151	157	05	154.0	11.4	05	154.0	11.4	1157	132	8.0	09	157.0	11.7	
--	--	Transponder signal lost	53	135	143	44	134	9.2	44	134	8.5	07	140	144	51	152	158	07	156.0	11.3	07	156.0	11.3	--	--	--	--	--	--	
1157	132	138	55	133	139	46	130	9.2	46	130	8.4	09	140	144	53	154	160	09	157.0	11.1	09	157.0	11.1	1157	132	8.0	09	157.0	11.7	
59	131	137	57	130	136	48	125	9.2	48	125	8.5	11	140	144	55	156	161	11	158.0	11.0	11	158.0	11.0	1157	132	8.0	09	157.0	11.7	
1201	130	137	1159	129	135	1150	117	9.3	1150	117	8.9	--	--	Transponder signal lost	1057	157	162	1213	158.5	12.1	1213	158.5	12.1	1201	130	137	7.9	11	158.0	12.0
03	129	136	1201	127	133	52	114	9.4	52	114	9.0	1115	140	144	59	161	167	15	159.0	12.1	15	159.0	12.1	1201	130	137	7.9	11	158.0	12.0
05	127	134	03	123	129	54	111	9.5	54	111	9.2	17	--	--	1101	162	168	17	160.0	12.2	17	160.0	12.2	1201	130	137	7.9	11	158.0	12.0
07	124	132	05	122	128	56	106	9.7	56	106	9.8	--	--	Transponder signal lost	03	164	170	19	161.0	12.2	19	161.0	12.2	1201	130	137	7.9	11	158.0	12.0
09	122	130	07	121	127	58	102	9.9	58	102	10.4	1125	138	142	05	166	172	--	--	Transponder signal lost	--	--	Transponder signal lost	1201	130	137	7.9	11	158.0	12.0
1211	118	126	1209	120	126	1200	098	10.1	1200	098	11.1	1107	168	175	1107	168	175	1233	166.0	10.1	1233	166.0	10.1	1211	118	126	7.2	11	158.0	12.0
13	117	124	11	118	124	02	096	10.2	02	096	12.4	1117	176	182	09	169	175	35	166.0	10.0	35	166.0	10.0	1211	118	126	7.2	11	158.0	12.0
15	116	122	13	117	123	04	093	10.4	04	093	13.3	1117	176	182	11	170	177	37	166.5	9.8	37	166.5	9.8	1211	118	126	7.2	11	158.0	12.0
17	112	118	15	114	120	06	--	10.6	06	--	14.4	1117	176	182	13	173	178	39	167.0	9.6	39	167.0	9.6	1211	118	126	7.2	11	158.0	12.0
19	110	115	17	113	119	10.9	--	10.9	10.9	--	--	1117	176	182	15	174	180	41	167.0	9.4	41	167.0	9.4	1211	118	126	7.2	11	158.0	12.0
1221	108	113	1219	112	117	11.1	112	11.1	11.1	112	11.1	1117	176	182	25	182	187	--	--	Transponder signal lost	--	--	Transponder signal lost	1221	108	113	7.5	11	158.0	12.0
23	107	112	21	109	115	11.3	107	11.3	11.3	107	11.3	1117	176	182	21	177	183	19	168.0	8.8	19	168.0	8.8	1221	108	113	7.5	11	158.0	12.0
25	104	106	23	107	113	11.4	107	11.4	11.4	107	11.4	1117	176	182	23	181	187	21	169.5	8.5	21	169.5	8.5	1221	108	113	7.5	11	158.0	12.0
27	100	105	25	100	106	11.6	100	11.6	11.6	100	11.6	1117	176	182	25	181	187	23	170.0	8.2	23	170.0	8.2	1221	108	113	7.5	11	158.0	12.0
29	098	104	27	103	109	11.8	103	11.8	11.8	103	11.8	1117	176	182	27	182	187	25	170.5	7.9	25	170.5	7.9	1221	108	113	7.5	11	158.0	12.0
1131	095	103	1229	101	107	12.1	101	12.1	12.1	101	12.1	1127	185	189	1127	185	189	1259	171.5	7.7	1259	171.5	7.7	1131	095	103	7.7	11	158.0	12.0
33	095	102	31	101	106	--	101	--	--	101	--	1127	185	189	--	Transponder signal lost	--	1301	171.5	6.8	1301	171.5	6.8	1131	095	103	7.7	11	158.0	12.0
35	093	099	33	100	106	--	100	--	--	100	--	1137	190	--	1137	190	--	03	172.0	12.7	03	172.0	12.7	1131	095	103	7.7	11	158.0	12.0
37	091	096	35	101	106	--	101	--	--	101	--	1147	195	198	--	RAREP	--	05	173.0	12.7	05	173.0	12.7	1131	095	103	7.7	11	158.0	12.0
39	089	094	--	--	RAREP	--	--	--	--	--	--	1147	195	198	1147	195	198	07	173.5	12.7	07	173.5	12.7	1131	095	103	7.7	11	158.0	12.0
1241	084	092	1257	090	096	2.1	090	2.1	2.1	090	2.1	1149	193	200	1149	193	200	1309	175.0	4.9	1309	175.0	4.9	1241	084	092	8.1	11	158.0	12.0
43	082	088	59	090	096	2.0	090	2.0	2.0	090	2.0	51	196	203	51	196	203	11	176.0	4.5	11	176.0	4.5	1241	084	092	8.1	11	158.0	12.0
45	080	086	1301	089	095	2.2	089	2.2	2.2	089	2.2	53	195	208	53	195	208	13	177.0	4.3	13	177.0	4.3	1241	084	092	8.1	11	158.0	12.0
			03	089	095	2.0	089	2.0	2.0	089	2.0	55	195	212	55	195	212	15	177.5	4.2	15	177.5	4.2	1241	084	092	8.1	11	158.0	12.0
			05	088	094	1.8	088	1.8	1.8	088	1.8	57	198	210	57	198	210	17	178.5	3.8	17	178.5	3.8	1241	084	092	8.1	11	158.0	12.0
			1307	087	093	1.9	087	1.9	1.9	087	1.9	1159	200	214	1159	200	214	1319	179.5	3.7	1319	179.5	3.7	1241	084	092	8.1	11	158.0	12.0
			09	087	093	1.8	087	1.8	1.8	087	1.8	1201	212	218	1201	212	218	21	180.0	3.3	21	180.0	3.3	1241	084	092	8.1	11	158.0	12.0
			11	087	093	1.6	087	1.6	1.6	087	1.6	03	210	220	03	210	220	23	180.0	3.4	23	180.0	3.4	1241	084	092	8.1	11	158.0	12.0
			13	086	092	1.4	086	1.4	1.4	086	1.4	--	--	RAREP	--	--	--	25	180.0	3.1	25	180.0	3.1	1241	084	092	8.1	11	158.0	12.0
			15	086	092	1.4	086	1.4	1.4	086	1.4	1213	219	--	1213	219	--	27	181.0	2.9	27	181.0	2.9	1241	084	092	8.1	11	158.0	12.0
												1215	226	--	1215	226	--													

Table 7 (continued).

Experiment No. 27 (cont.)					Experiment No. 28 (cont.)					Experiment No. 29					Experiment No. 29 (cont.)				
Tracer Release:Site (to CST)					Tracer Release:Site (to CST)					Tracer Release:Site A (2000 to 2100 CST)					Tracer Release:Site (to CST)				
Ascension Start: CST					Ascension Start: 1115CST					Ascension Start: 2015 CST					Ascension Start: CST				
Tetron Flight Level:					Tetron Flight Level:1500 ft					Tetron Flight Level:1500 ft					Tetron Flight Level: CST				
Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)		
1329	181.0	13.7	1119	149.0	11.3	1209	197.0	2.7	2023	146.0	10.2	2113	088.2	11.0					
31	180.0	13.7	21	149.0	11.1	11	206.0	2.4	25	147.0	10.3	15	085.8	11.3					
33	180.0	13.8	23	149.0	10.8	13	214.0	2.3	27	146.5	10.3	17	083.2	11.7					
35	181.5	14.0	25	150.0	10.4	15	230.0	2.4	29	146.5	10.3	19	081.0	12.0					
37	182.0	14.0	27	151.5	10.1	17	242.0	2.4	31	146.5	10.3	21	080.0	12.3					
1339	182.5	14.1	1129	152.0	9.8	1219	254.2	2.6	2033	143.0	10.1	2123	079.2	12.8					
41	183.5	14.2	31	153.0	9.5	21	262.5	2.8	35	142.0	9.9	25	077.3	13.3					
43	184.0	14.3	33	154.0	9.1	23	269.0	3.2	37	141.2	9.7	27	076.0	13.5					
45	183.5	14.4	35	154.0	8.7	25	272.0	3.4	39	139.5	9.5	29	075.1	13.9					
47	183.5	14.4	37	154.2	8.4	27	277.5	3.6	41	135.2	9.4	31	074.2	14.0					
1349	183.5	14.4	1139	157.0	7.8	1229	280.0	3.8	2043	132.5	9.3	2133	073.0	14.7					
			41	157.0	7.5	31	285.0	4.1	45	129.0	9.2	35	072.0	15.0					
			43	157.5	7.1	33	289.5	4.4	47	125.0	9.2	37	070.0	15.5					
			45	158.5	6.7	35	293.0	4.6	49	122.0	9.2	39	068.5	16.1					
			47	159.0	6.3	37	295.0	4.9	51	119.0	9.2	41	066.5	16.6					
			1149	161.0	6.0	1239	298.0	5.2	2053	116.5	9.2	2143	065.0	17.1					
			51	163.0	5.7	41	300.0	5.6	55	112.2	9.2								
			53	166.0	5.2				57	109.2	9.4								
			55	169.5	4.8				59	105.5	9.4								
			57	173.0	4.5				2101	101.5	9.5								
			1159	173.5	4.0				2103	099.2	9.7								
			1201	179.0	3.7				05	098.5	9.9								
			03	184.0	3.5				07	095.2	10.1								
			05	186.0	3.3				09	094.0	10.4								
			07	193.0	3.1				11	091.5	10.7								

Table 7 (continued). TETROON OBSERVATIONS

Experiment No. 30 16 October 1964 Tracer Release: Site B (2000 to 2100 CST) Ascension Start: 2052 CST Tetroon Flight Level: 1500m				Experiment No. 31 17 October 1964 Tracer Release: Site A (1315 to 1415 CST) Ascension Start: 1330 CST Tetroon Flight Level: 1000 m				Experiment No. 32 19 October 1964 Tracer Release: Site A (1945 to 2045 CST) Ascension Start: 2000 CST Tetroon Flight Level: 1000 ft				Experiment No. 33 20 October 1964 Tracer Release: Site A (1915 to 2015 CST) Ascension Start: 1930 CST Tetroon Flight Level: 1000 ft				Experiment No. 35 6 March 1965 Tracer Release: Site A (1230 to 1330 CST) Ascension Start: 1245 CST Tetroon Flight Level: 1000 ft				Experiment No. 36 7 March 1965 Tracer Release: Site A (1230 to 1330 CST) Ascension Start: 1245 CST Tetroon Flight Level: 1000 ft			
Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)
2058	148.0	11.9	1332	147.5	8.4	2004	150.0	9.8	1932	143	8.8	1245	141.0	10.40	1249	143.0	149.0	1249	143.0	149.0	1249	143.0	149.0
2100	148.0	11.7	34	146.5	8.1	06	150.5	10.1	34	136	8.7	--	Transponder signal lost	10.20	51	143.3	151.0	51	143.3	151.0	51	143.3	151.0
02	147.0	11.8	36	146.0	8.0	--	Transponder Signal Lost	10.8	36	132	8.4	1249	138.9	10.20	53	143.5	151.1	53	143.5	151.1	53	143.5	151.1
04	146.0	12.0	39	146.0	7.6	2010	150.5	10.8	38	127	8.3	--	Transponder signal lost	11.56	55	143.8	150.5	55	143.8	150.5	55	143.8	150.5
06	145.5	12.3	40	145.0	7.1	12	150.0	11.2	40	122	8.3	1253	139.5	140.4	57	144.5	151.1	57	144.5	151.1	57	144.5	151.1
08	145.0	12.5	42	144.0	6.8																		
10	143.5	12.8	44	143.0	6.3	2014	151.0	11.8	1942	118	8.3	1255	143.0	146.6	1259	145.4	151.5	1259	145.4	151.5	1259	145.4	151.5
12	142.0	13.1	46	141.5	6.1	16	151.0	12.3	44	112	8.5	57	144.7	147.5	1301	144.9	150.5	1301	144.9	150.5	1301	144.9	150.5
14	141.0	13.4	48	140.0	5.5	18	151.0	12.7	46	107	8.7	59	144.0	147.8	03	145.4	151.5	03	145.4	151.5	03	145.4	151.5
16	140.0	13.8	50	137.0	5.2	20	151.0	13.2	48	101	8.9	1301	143.0	149.2	05	146.1	153.0	05	146.1	153.0	05	146.1	153.0
18	139.5	14.1	52	135.2	4.8	22	151.0	13.7	--	Transponder signal lost	13.80	03	143.5	149.0	07	147.0	152.4	07	147.0	152.4	07	147.0	152.4
20	139.0	14.6	54	127.2	4.3																		
2122	137.5	14.9	56	124.0	3.9																		
24	--	--	58	122.0	3.6	2024	152.0	14.3	1954	090	10.2	1305	143.5	148.7	1309	147.0	153.6	1309	147.0	153.6	1309	147.0	153.6
26	135.0	15.0	1400	118.0	2.9	--	Transponder Signal Lost	15.7				07	144.6	148.7	11	147.5	154.2	11	147.5	154.2	11	147.5	154.2
28	136.0	15.0	02	--	--	2032	153.0	16.3				09	143.6	148.4	13	149.2	153.5	13	149.2	153.5	13	149.2	153.5
30	137.0	15.0	04	112.0	2.1	34	153.5	16.8				11	144.4	148.8	15	149.8	155.3	15	149.8	155.3	15	149.8	155.3
32	137.0	15.0	06	--	1.8	36	153.5					13	144.0	148.4	17	149.5	155.0	17	149.5	155.0	17	149.5	155.0
34	137.0	15.0	08	TOO	1.5							1315	144.6	148.5	1319	149.2	154.4	1319	149.2	154.4	1319	149.2	154.4
36	137.0	15.0	10	CLOSE	1.3							17	144.4	148.8	21	150.3	155.9	21	150.3	155.9	21	150.3	155.9
38	136.0	15.0	12	TO	1.0							19	144.5	148.5	23	150.4	155.2	23	150.4	155.2	23	150.4	155.2
2140	137.0	15.0	14	RADAR	1.0										25	150.4	155.6	25	150.4	155.6	25	150.4	155.6
TRANSPONDER SIGNAL LOST				16	1.2										27	151.4	157.5	27	151.4	157.5	27	151.4	157.5
2150	135.0	14.7	18	--	1.5																		
52	135.0	14.7	20	345.0	1.9							1329	150.6	157.5	1329	150.6	157.5	1329	150.6	157.5	1329	150.6	157.5
54	135.0	14.7	22	342.0	2.3							31	152.6	156.5	31	152.6	156.5	31	152.6	156.5	31	152.6	156.5
56	134.0	14.7	24	347.0	2.9							33	152.5	156.6	33	152.5	156.6	33	152.5	156.6	33	152.5	156.6
58	134.0	14.8	26	349.5	3.3							35	153.0	156.6	35	153.0	156.6	35	153.0	156.6	35	153.0	156.6
2200	133.0	14.8	28	351.0	3.9							37	151.3	157.6	37	151.3	157.6	37	151.3	157.6	37	151.3	157.6
02	133.0	14.7	30	351.0	4.4																		
04	133.0	14.7	32	--	--							1339	151.3	157.5	1339	151.3	157.5	1339	151.3	157.5	1339	151.3	157.5
06	133.0	14.7	34	347.0	5.3							41	151.4	157.7	41	151.4	157.7	41	151.4	157.7	41	151.4	157.7
08	133.0	14.6	36	343.5	5.8							43	153.0	156.6	43	153.0	156.6	43	153.0	156.6	43	153.0	156.6
2210	133.0	14.6	38	342.5	6.2							45	152.5	157.6	45	152.5	157.6	45	152.5	157.6	45	152.5	157.6
		14.6	40	342.0	6.6							47	152.0	156.6	47	152.0	156.6	47	152.0	156.6	47	152.0	156.6
			42	341.2	7.0																		
			44	341.5	7.0																		
			46	341.5	7.4							1349	152.2	156.6	1349	152.2	156.6	1349	152.2	156.6	1349	152.2	156.6
			48	341.5	7.7							51	151.3	156.6	51	151.3	156.6	51	151.3	156.6	51	151.3	156.6
			50	342.0	8.1							53	152.0	156.5	53	152.0	156.5	53	152.0	156.5	53	152.0	156.5
			52	342.0	8.4							55	151.6	157.0	55	151.6	157.0	55	151.6	157.0	55	151.6	157.0
			54	341.5	8.7							57	151.6	156.5	57	151.6	156.5	57	151.6	156.5	57	151.6	156.5
			56	341.5	9.2																		
			58	341.0	9.7																		
			1500	342.0	10.1																		

Table 7 (continued). TETROON OBSERVATIONS

Experiment No. 39				Experiment No. 39 (cont.)				Experiment No. 40				Experiment No. 41				Experiment No. 41 (cont.)				Experiment No. 42			
13 March 1965				14 March 1965				15 March 1965				16 March 1965				16 March 1965				16 March 1965			
Tracer Release:Site A				Tracer Release:Site A				Tracer Release:Site A				Tracer Release:Site A				Tracer Release:Site A				Tracer Release:Site B			
(1220 to 1320 CST)				(1100 to 1200 CST)				(1100 to 1200 CST)				(2050 to 2150 CST)				(2030 to 2130 CST)				(2030 to 2130 CST)			
Ascension Start:1235 CST				Ascension Start:1147 CST				Ascension Start:1147 CST				Ascension Start:2104 CST				Ascension Start:2034 CST				Ascension Start:2034 CST			
Tetroon Flight Level:1000 ft				Tetroon Flight Level:1000 ft				Tetroon Flight Level:1000 ft				Tetroon Flight Level:1000 ft				Tetroon Flight Level:1000 ft				Tetroon Flight Level:1000 ft			
Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)	Time (CST)	Azimuths (deg)	Range (nm)			
1239	144.0	9.40	1329	124.0	11.20	1151	144.0	10.2	2108	146.5	9.5	2158	129.8	17.0	2036	150.0	10.8	2036	150.0	10.8			
41	144.0	9.60	31	123.0	11.20	53	143.0	10.5	10	148.7	9.8	2200	129.0	17.3	38	151.2	10.3	38	151.2	10.3			
43	143.5	9.80	33	122.0	11.30	55	142.0	11.0	12	148.8	10.0	02	128.8	17.7	40	150.5	9.2	40	150.5	9.2			
45	143.0	9.70	35	121.2	11.50	57	142.5	11.5	14	148.7	10.4	04	128.6	18.0	42	153.2	7.9	42	153.2	7.9			
47	142.5	9.80	37	120.8	11.60	59	142.0	12.1	16	148.8	10.7	06	128.4	18.5	44	155.5	6.9	44	155.5	6.9			
1249	142.0	9.90	1339	120.0	11.70	1201	141.7	12.7	2118	148.3	11.0	2208	127.8	18.8	2046	157.0	5.4	2046	157.0	5.4			
51	141.9	10.00	41	120.0	11.80	03	141.0	13.5	20	148.0	11.3	10	126.4	19.3	48	159.4	4.2	48	159.4	4.2			
53	140.0	10.00	43	120.2	11.90	--	Transponder signal lost	16.2	22	147.0	11.6	12	126.0	19.7	50	167.5	3.2	50	167.5	3.2			
55	139.0	10.00	45	119.8	12.00	1211	137.5	17.1	24	145.5	11.8	14	126.0	20.0	--	Transponder signal lost	2.6	--	Transponder signal lost	2.6			
57	139.0	10.00	47	119.2	12.10	13	137.0	17.1	26	145.0	12.0	16	125.5	20.4	2056	215.0		2056	215.0				
1259	137.8	10.10	1349	118.8	12.20	1215	136.7	17.7	2128	143.6	12.3	2218	125.5	20.8	2058	228.0	2.7	2058	228.0	2.7			
1301	137.0	10.20	51	117.8	12.30	17	136.5	18.3	30	142.5	12.6	20	124.5	21.2	2100	258.0	3.1	2100	258.0	3.1			
03	136.9	10.30	53	117.1	12.40	19	136.0	19.1	32	140.6	12.9	22	124.0	21.6	02	265.0	3.8	02	265.0	3.8			
05	136.1	10.30	55	117.0	12.60	21	135.5	19.7	34	139.2	13.1	24	124.0	22.0	04	280.0	4.7	04	280.0	4.7			
07	135.0	10.30	57	116.6	12.60	23	133.2	20.4	36	138.6	13.4	26	123.8	22.3									
1309	134.0	10.30	1359	115.6	12.70	1225	132.8	20.9	2138	136.8	13.7	2228	123.8	22.8									
11	133.5	10.30	1401	115.0	12.80	27	132.5	21.6	40	135.5	14.1	30	123.8	23.2									
13	133.0	10.30	03	114.0	12.95	29	132.0	22.3	42	135.5	14.4	32	123.6	23.5									
15	132.0	10.40	05	114.2	13.10	31	131.5	22.9	44	134.2	14.7	34	123.6	23.8									
17	130.0	10.50				33	131.0	23.8	46	133.4	15.1												
1319	127.2	10.55	1235	130.7	24.2				--	Transponder signal lost													
21	127.3	10.60	37	130.5	25.0	1235	130.7	24.2	2150	132.2	15.7												
23	127.0	10.70	39	129.0	25.5	37	130.5	25.0	52	131.6	16.1												
25	126.0	10.90							54	131.0	16.4												
27	125.0	11.10							56	130.2	16.7												

PILOT BALLOON MEASUREMENTS

Single-theodolite observations of the winds aloft were made at the tracer release sites during all experiments. As few as two and as many as four ascensions per experiment were obtained, depending on the availability of personnel and on meteorological conditions. Ceiling balloons were inflated to standard free lift for 10-gram balloons. The azimuth and elevation angles were read at 30-second intervals; heights of the balloons above the surface at these intervals were computed from tables in U. S. Weather Bureau (1964b).

Table 8 lists for each ascent the heights of the balloon above the surface and the horizontal wind speed and direction at each height.

TABLE 8. PILOT BALLOON MEASUREMENTS

Symbols

Site A	:	Forest Park
Site B	:	Roof of Knights of Columbus Building
Z(m)	:	Height in whole meters of the balloon above the surface
D(deg)	:	Wind direction to the nearest tenth of a degree of azimuth
S(m/s)	:	Wind speed to the nearest tenth of a meter per second
-	:	Missing data

Table 8 (continued). PILOT BALLOON MEASUREMENTS

Experiment No. 2						
Release Site A		Tracer Release from 1410 to 1440 CST				
Ascension No. 1 Begin: 1314 CST		Ascension No. 2 Begin: 1330 CST				
Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	
76	279.0	3.8	76	303.5	7.3	
152	285.2	4.8	152	297.8	8.2	
223	281.8	4.7	223	297.0	9.2	
293	282.2	6.3	293	288.2	11.0	
363	279.3	7.8	363	281.3	10.8	
433	275.6	6.7	433	282.7	8.4	
503	275.6	6.5	503	281.1	7.5	
573	276.1	7.1	573	279.2	6.7	
637	273.4	7.8	637	276.9	4.8	
701	269.3	7.4				
765	269.7	7.3				
829	270.1	7.3				
893	267.0	7.7				
Experiment No. 3						
Release Site A		Tracer Release from 1000 to 1100 CST				
Ascension No. 1 Begin: 0912 CST		Ascension No. 3 Begin: 1104 CST				
Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	
76	274.7	4.8	76	271.9	9.0	6.0
152	274.8	6.3	152	277.0	11.6	7.5
223	274.6	9.2	223	277.9	13.7	8.1
293	276.1	11.4	293	278.2	15.5	7.4
363	279.0	12.6	363	279.3	16.0	7.8
433	281.4	14.4	433	280.0	13.9	8.2
503	282.0	12.5	503	278.7	11.0	7.7
573	277.2	10.5	573	280.6	9.5	7.8
637	274.8	10.6	637	284.9	8.8	5.9
701	273.0	9.8	701	282.0	8.5	7.0
765	271.9	9.5	765	279.0	7.6	7.3
Experiment No. 4						
Release Site A		Tracer Release from 1130 to 1230 CST				
Ascension No. 1 Begin: 1112 CST		Ascension No. 2 Begin: 1220 CST				
Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	
76	231.6	5.6	76	227.7	3.8	8.2
152	236.2	7.2	152	224.1	3.9	9.8
223	240.6	12.3	223	215.5	2.8	13.7
293	240.8	15.8	293	208.6	2.3	11.7
363	240.5	15.3	363	208.6	2.4	11.2
433	236.6	13.2	433	228.8	15.4	15.4
503	218.0	7.4	503	229.0	13.8	13.8
573	209.5	9.2	573	231.2	11.3	11.3
637	213.7	13.1	637	231.2	10.6	10.6
701	213.8	12.4				
Experiment No. 5						
Release Site B		Tracer Release from 1104 to 1204 CST				
Ascension No. 1 Begin: 1135 CST		Ascension No. 2 Begin: 1212 CST				
Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	
76	172.2	3.8	76	137.8	3.0	3.0
152	182.0	4.8	152	-	-	-
223	182.8	5.8	223	143.8	4.0	4.0
293	194.8	5.6	293	175.0	2.6	2.6
363	211.8	3.8	363	219.2	3.6	3.6
433	173.6	1.8	433	211.9	3.0	3.0
503	165.8	2.9	503	198.4	3.3	3.3
573	185.6	4.6	573	200.9	3.6	3.6
637	210.6	5.7	637	214.1	4.2	4.2
701	223.9	5.0	701	219.4	5.7	5.7
765			765	216.9	6.0	6.0
829			829	213.2	5.8	5.8
893			893	212.5	5.7	5.7
			957	211.5	5.2	5.2

[illegible]

Table 8 (continued). PILOT BALLOON MEASUREMENTS

Experiment No. 6											
Release Site B				Tracer Release from 1130 to 1230 CST				26 July 1963			
Ascension No. 1 Begin: 0930 CST				Ascension No. 2 Begin: 1120 CST				Ascension No. 3 Begin: 1200 CST			
Z(m)	D(deg)	S(m/s)		Z(m)	D(deg)	S(m/s)		Z(m)	D(deg)	S(m/s)	
76	107.5	7.3		76	138.5	3.5		76	140.1	5.1	
152	-	-		152	133.9	4.6		152	144.5	7.5	
223	113.8	5.4		223	131.9	4.3		223	142.2	10.7	
293	113.1	6.0		293	-	-		293	133.5	15.0	
363	112.9	6.7		363	-	-		363	132.5	10.0	
433	114.0	6.2		433	-	-		433	134.3	4.4	
503	117.2	6.2		503	-	-		503	137.2	8.5	
573	120.9	7.0		573	102.7	2.8		573	138.8	11.4	
637	127.6	7.2		637	103.9	2.1		637	140.9	7.5	
701	138.3	5.3		701	-	-		701	140.6	4.3	
765	153.7	3.7		765	140.9	3.7		765	140.9	3.7	
829	172.7	2.3		829	141.1	3.0		829	141.1	3.0	
893	204.3	1.5		893	135.0	6.5		893	135.0	6.5	
957	225.3	1.3		957	136.0	10.0		957	136.0	10.0	
1021	267.5	1.2									
Experiment No. 7											
Release Site B				Tracer Release from 1040 to 1140 CST				12 September 1963			
Ascension No. 1 Begin: 0900 CST				Ascension No. 2 Begin: 0937 CST				Ascension No. 3 Begin: 1145 CST			
Z(m)	D(deg)	S(m/s)		Z(m)	D(deg)	S(m/s)		Z(m)	D(deg)	S(m/s)	
76	182.6	6.5		76	168.2	4.3		76	137.8	6.2	
152	183.2	6.6		152	182.1	5.0		152	-	-	
223	181.0	6.0		223	155.0	3.3		223	125.1	8.0	
293	185.9	3.9		293	135.0	2.2		293	132.5	7.0	
363	203.0	1.8		363	135.0	1.8		363	139.2	8.0	
433	-	-		433	141.3	9.4		433	141.3	9.4	
503	-	-		503	-	-		503	140.2	8.4	
573	-	-		573	-	-		573	145.5	9.2	
637	-	-		637	-	-		637	145.0	9.3	
701	-	-		701	-	-		701	145.1	7.6	
765	-	-		765	-	-		765	145.3	6.7	
829	-	-		829	-	-		829	148.0	5.1	
893	-	-		893	-	-		893	145.9	8.5	
957	-	-		957	-	-		957	145.0	9.5	
1021	-	-		1021	-	-		1021	146.5	6.3	
Experiment No. 8											
Release Site B				Tracer Release from 1045 to 1145 CST				26 July 1963			
Ascension No. 1 Begin: 0915 CST				Ascension No. 2 Begin: 1115 CST				Ascension No. 3 Begin: -			
Z(m)	D(deg)	S(m/s)		Z(m)	D(deg)	S(m/s)		Z(m)	D(deg)	S(m/s)	
76	152.0	6.4		76	152.0	6.4		76	178.0	5.8	
152	145.0	6.0		152	145.0	6.0		152	173.2	6.0	
223	144.6	6.8		223	144.6	6.8		223	171.2	6.4	
293	148.7	8.2		293	148.7	8.2		293	171.0	7.4	
363	152.5	7.5		363	152.5	7.5		363	167.2	7.5	
433	158.3	5.8		433	158.3	5.8		433	159.0	6.8	
503	165.3	4.4		503	165.3	4.4		503	162.4	7.8	
573	163.5	4.6		573	163.5	4.6		573	152.4	8.4	
637	162.0	5.3		637	162.0	5.3		637	151.2	6.3	
701	160.5	5.4		701	160.5	5.4		701	155.3	4.2	
765	192.3	6.1		765	192.3	6.1		765	163.1	5.0	
829	217.2	4.2		829	217.2	4.2		829	160.1	6.8	
Experiment No. 9											
Release Site A				Tracer Release from 1115 to 1215 CST				12 September 1963			
Ascension No. 1 Begin: 1105 CST				Ascension No. 2 Begin: 1121 CST				Ascension No. 3 Begin: -			
Z(m)	D(deg)	S(m/s)		Z(m)	D(deg)	S(m/s)		Z(m)	D(deg)	S(m/s)	
76	350.0	5.2		76	350.0	5.2		76	323.0	7.7	
152	354.8	7.2		152	354.8	7.2		152	324.0	7.4	
223	334.0	3.8		223	334.0	3.8		223	324.8	8.0	
293	321.8	3.0		293	321.8	3.0		293	322.1	7.8	
363	320.9	4.2		363	320.9	4.2		363	321.0	10.7	
433	335.5	1.2		433	335.5	1.2		433	-	-	
503	341.4	3.6		503	341.4	3.6		503	-	-	
573	336.6	2.9		573	336.6	2.9		573	-	-	
637	323.4	3.6		637	323.4	3.6		637	-	-	
701	318.5	4.6		701	318.5	4.6		701	-	-	

Table 8 (continued). PILOT BALLOON MEASUREMENTS

Experiment No. 1				Experiment No. 12			
Release Site B		Tracer Release from 1045 to 1145 CST		Release Site B		Tracer Release from 2000 to 2100 CST	
Ascension No. 1 Begin: 0955 CST				Ascension No. 2 Begin: 2010 CST			
Z(m)	D(deg)	S(m/s)		Z(m)	D(deg)	S(m/s)	
76	39.3	4.4		76	140.2	4.6	
152	31.4	4.8		152	142.8	6.8	
223	30.6	5.2		223	143.2	7.8	
293	36.2	5.6		293	143.1	7.4	
363	42.7	5.3		363	143.3	7.4	
433	46.7	4.8		433	143.3	7.4	
503	63.3	4.3		503	139.8	7.2	
573	79.4	3.9		573	140.4	6.2	
637	67.5	4.0		637	143.7	5.6	
701	55.1	4.4		701	143.7	6.0	
765		89.0	2.8	765		63.1	10.0
829		102.3	2.4	829		62.8	10.1
Experiment No. 11				Experiment No. 13			
Release Site B		Tracer Release from 1100 to 1200 CST		Release Site B		Tracer Release from 2000 to 2100 CST	
Ascension No. 2 Begin: 1054 CST				Ascension No. 2 Begin: 2007 CST			
Z(m)	D(deg)	S(m/s)		Z(m)	D(deg)	S(m/s)	
76	133.5	2.8		76	80.5	2.7	
152	140.0	3.2		152	84.3	3.0	
223	149.0	2.5		223	89.5	2.7	
293	156.2	3.0		293	102.4	2.2	
363	159.1	4.4		363	122.8	1.6	
433	162.7	5.5		433	152.0	1.2	
503	165.7	6.8		503	166.7	1.0	
573	165.7	7.7		573	170.6	1.0	
637	163.5	8.1		637	187.7	0.8	
701	162.5	8.4		701	193.2	0.8	
765		6.9		765		6.9	
Ascension No. 1 Begin: 0900 CST				Ascension No. 1 Begin: 1820 CST			
Z(m)	D(deg)	S(m/s)		Z(m)	D(deg)	S(m/s)	
76	137.1	3.1		76	80.5	2.7	
152	135.2	3.7		152	84.3	3.0	
223	141.7	4.8		223	89.5	2.7	
293	142.8	6.0		293	102.4	2.2	
363	141.2	5.9		363	122.8	1.6	
433	154.1	5.8		433	152.0	1.2	
503	162.0	7.0		503	166.7	1.0	
573	164.5	7.0		573	170.6	1.0	
637	165.8	7.8		637	187.7	0.8	
701	174.0	7.4		701	193.2	0.8	
765	182.3			765			
Ascension No. 3 Begin: 2105 CST				Ascension No. 3 Begin: 2105 CST			
Z(m)	D(deg)	S(m/s)		Z(m)	D(deg)	S(m/s)	
76	116.7	2.1		76	116.7	2.8	
152	127.0	2.7		152	127.0	3.2	
223	131.3	3.1		223	131.3	2.6	
293	131.3	3.1		293	131.3	2.3	
363	133.5	3.2		363	133.5	2.3	
433	143.3	3.3		433	143.3	2.3	
503	145.0	3.3		503	145.0	2.5	
573	148.1	3.6		573	148.1	2.4	
637	149.2	3.9		637	149.2	2.5	
701	151.0	3.8		701	151.0	2.8	

Table 8 (continued). PILOT BALLOON MEASUREMENTS

Experiment No. 18				Experiment No. 20				
Release Site A		Release Site A		Release Site A		Release Site A		
3 April 1964		Tracer Release from 2045 to 2145 CST		3 June 1964		Tracer Release from 1040 to 1140 CST		
Ascension No. 1 Begin: 1855 CST		Ascension No. 2 Begin: 1935 CST		Ascension No. 1 Begin: 0913 CST		Ascension No. 3 Begin: 1155 CST		
Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	
76	229.9	6.0	76	213.8	6.1	76	223.4	0.6
152	231.6	8.8	152	223.7	6.6	152	289.4	0.3
223	234.3	9.2	223	233.6	8.8	223	301.7	0.9
293	236.0	9.2	293	237.6	9.8	293	283.4	1.4
363	234.2	10.2	363	238.7	10.3	363	288.3	1.6
433	236.0	10.8	433	238.7	10.5	433	290.7	1.6
503	238.0	10.7				503	283.3	2.0
573	238.2	10.4				573	284.2	2.5
637	242.9	10.4				637	282.6	2.8
701	247.0	10.4				701	278.8	3.2
Experiment No. 19				Experiment No. 21				
Release Site A		Release Site A		Release Site B		Release Site B		
2 June 1964		Tracer Release from 1030 to 1130 CST		4 June 1964		Tracer Release from 1030 to 1130 CST		
Ascension No. 1 Begin: 0925 CST		Ascension No. 2 Begin: -		Ascension No. 1 Begin: 1020 CST		Ascension No. 3 Begin: 1137 CST		
Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	
76	296.6	2.4	76	310.6	8.2	76	183.2	6.0
152	299.6	2.4	152	309.3	9.6	152	178.2	4.9
223	301.3	3.9	223	312.2	11.8	223	159.3	2.6
293	301.1	5.6	293	313.2	14.7	293	166.3	3.8
363	301.1	6.4	363	312.0	14.9	363	170.5	4.9
433	302.1	7.0	433	313.7	17.8	433	163.1	5.1
503	303.1	7.2	503	316.0	20.9	503	156.0	6.0
573	304.2	5.8	573	314.8	17.7	573	150.3	5.8
637	303.8	5.3	637	309.2	9.6	637	145.5	5.2
701	302.2	5.3	701	235.0	1.6	701	138.3	4.2
765	304.1	6.4	765	246.0	4.0	765	119.8	3.4
829	306.2	5.5	829	207.0	3.8	829	107.0	5.3
893	305.5	6.2	893	139.9	10.6	893		
957	305.5	6.2	957	134.7	11.8	957		
Experiment No. 2				Experiment No. 3				
Release Site A		Release Site A		Release Site B		Release Site B		
2 June 1964		2 June 1964		4 June 1964		4 June 1964		
Tracer Release from 1030 to 1130 CST				Tracer Release from 1030 to 1130 CST				
Ascension No. 1 Begin: 0925 CST		Ascension No. 2 Begin: -		Ascension No. 1 Begin: 1020 CST		Ascension No. 3 Begin: 1137 CST		
Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	
76	296.6	2.4	76	300.8	2.8	76	163.7	7.8
152	299.6	2.4	152	303.5	2.5	152	159.8	11.0
223	301.3	3.9	223	296.1	3.0	223	158.8	12.6
293	301.1	5.6	293	303.3	3.1	293	157.8	11.9
363	301.1	6.4	363	307.8	2.1	363	160.0	8.4
433	302.1	7.0	433	304.6	2.0	433	162.4	4.8
503	303.1	7.2	503	304.9	4.2	503	155.8	2.5
573	304.2	5.8	573	303.4	4.7	573	147.1	3.7
637	303.8	5.3	637	300.8	4.7	637	185.2	5.3
701	302.2	5.3	701	301.7	5.2	701	129.0	5.8
765	304.1	6.4	765	300.9	5.8	765	089.0	7.2
829	306.2	5.5	829	299.8	6.1	829	080.0	1.2
893	305.5	6.2	893	299.0	6.0	893	006.8	0.9
957	305.5	6.2	957	297.8	5.7	957	332.3	0.8
Experiment No. 4				Experiment No. 5				
Release Site A		Release Site A		Release Site B		Release Site B		
2 June 1964		2 June 1964		4 June 1964		4 June 1964		
Tracer Release from 1030 to 1130 CST				Tracer Release from 1030 to 1130 CST				
Ascension No. 1 Begin: 0925 CST		Ascension No. 2 Begin: -		Ascension No. 1 Begin: 1020 CST		Ascension No. 3 Begin: 1137 CST		
Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	
76	296.6	2.4	76	310.6	8.2	76	148.0	11.0
152	299.6	2.4	152	309.3	9.6	152	154.1	9.6
223	301.3	3.9	223	312.2	11.8	223	163.2	12.6
293	301.1	5.6	293	313.2	14.7	293	167.7	11.9
363	301.1	6.4	363	312.0	14.9	363	167.0	4.0
433	302.1	7.0	433	313.7	17.8	433	143.8	2.2
503	303.1	7.2	503	316.0	20.9	503	140.1	2.9
573	304.2	5.8	573	314.8	17.7	573	152.5	5.0
637	303.8	5.3	637	309.2	9.6	637	153.9	6.1
701	302.2	5.3	701	235.0	1.6	701	142.7	4.8
765	304.1	6.4	765	246.0	4.0	765	134.5	4.5
829	306.2	5.5	829	207.0	3.8	829	135.5	4.9
893	305.5	6.2	893	139.9	10.6	893	139.4	5.1
957	305.5	6.2	957	134.7	11.8	957	145.6	5.2

Table 8 (continued). PILOT BALLOON MEASUREMENTS

Experiment No. 22										Experiment No. 24									
Release Site A					Release Site A					Release Site A					Release Site A				
Tracer Release from 1130 to 1230 CST					Tracer Release from 1130 to 1230 CST					Tracer Release from 1030 to 1130 CST					Tracer Release from 1030 to 1130 CST				
Ascension No. 1 Begin: 0959 CST					Ascension No. 2 Begin: 1138 CST					Ascension No. 1 Begin: 0925 CST					Ascension No. 2 Begin: 1107 CST				
Ascension No. 3 Begin: 1228 CST					Ascension No. 1 Begin: 0925 CST					Ascension No. 2 Begin: 1107 CST					Ascension No. 3 Begin: 1145 CST				
Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)
76	196.5	6.6	76	209.5	2.7	76	145.4	6.2	76	215.6	4.4	76	206.2	5.1	76	205.7	9.0	76	205.7
152	193.1	7.4	152	217.7	4.1	152	144.8	5.9	152	219.1	5.2	152	202.8	3.9	152	206.3	9.4	152	206.3
223	190.8	7.5	223	214.0	6.0	223	173.3	3.4	223	223.2	9.0	223	223.0	3.2	223	210.0	10.8	223	210.0
293	189.0	7.8	293	213.9	6.9	293	204.1	2.6	293	226.4	11.2	293	218.8	4.3	293	208.3	14.3	293	208.3
363	186.8	8.4	363	213.0	7.6	363	188.8	2.8	363	228.0	14.5	363	214.4	6.7	363	208.8	16.9	363	208.8
433	182.4	6.6	433	213.0	7.5	433	194.2	4.3	433	226.1	16.2	433	223.1	7.8	433	210.0	19.3	433	210.0
503	189.4	4.6	503	213.9	4.6	503	204.8	5.8	503	224.8	15.8	503	239.3	9.1	503	211.8	17.9	503	211.8
573	209.6	3.6	573	217.9	5.9	573	210.3	5.4	573	221.7	13.8	573	271.1	12.6	573	214.0	16.9	573	214.0
637	228.7	3.6	637	222.1	5.8	637	209.1	4.0	637	222.5	10.6	637	255.0	11.3	637	211.9	18.1	637	211.9
701	241.8	4.6	701	224.0	5.3	701	195.1	4.8	701	232.7	11.1	701	231.8	6.0	701	212.2	18.9	701	212.2
765	250.9	4.7	765	223.3	4.6	765	194.7	5.8	765	239.7	13.7	765	250.8	7.0	765	215.3	18.3	765	215.3
829	257.2	5.1	829	220.6	4.5	829	200.9	5.1	829	249.8	15.2	829	246.2	7.2	829	217.0	15.2	829	217.0
893	257.2	6.2	893	227.1	3.8	893	211.0	4.8	893	252.0	16.8	893	243.5	7.3	893	217.0	14.4	893	217.0
957	257.2	6.8	957	237.1	3.2	957	214.3	4.8	957										
						1021	215.2	4.8											
						1085	215.3	5.1											
Experiment No. 23										Experiment No. 25									
Release Site A					Release Site A					Release Site A					Release Site A				
Tracer Release from 1132 to 1252 CST					Tracer Release from 1132 to 1252 CST					Tracer Release from 1033 to 1133 CST					Tracer Release from 1033 to 1133 CST				
Ascension No. 1 Begin: 0950 CST					Ascension No. 2 Begin: 1148 CST					Ascension No. 1 Begin: 0954 CST					Ascension No. 2 Begin: 1051 CST				
Ascension No. 3 Begin: 1240 CST					Ascension No. 1 Begin: 0954 CST					Ascension No. 2 Begin: 1051 CST					Ascension No. 3 Begin: 1138 CST				
Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)
76	242.3	3.8	76	215.1	5.0	76	227.2	7.3	76	345.2	1.4	76	295.8	2.6	76	259.3	1.4	76	259.3
152	232.1	3.5	152	221.2	3.7	152	227.7	8.0	152	334.3	1.6	152	293.2	2.6	152	281.7	0.8	152	281.7
223	213.2	1.8	223	232.0	4.6	223	230.0	7.4	223	328.0	1.8	223	281.8	1.8	223	332.1	1.2	223	332.1
293	195.8	1.0	293	232.0	8.0	293	235.4	7.2	293	346.1	1.8	293	279.7	2.0	293	322.9	2.0	293	322.9
363	198.7	1.4	363	232.0	10.4	363	238.6	7.6	363	356.3	2.0	363	279.0	3.7	363	311.2	2.8	363	311.2
433	208.3	2.3	433	234.0	11.5	433	244.0	5.0	433	344.8	2.6	433	280.3	4.2	433	301.5	3.4	433	301.5
503	211.6	3.0	503	237.0	1.0	503	245.0	5.3	503	332.2	3.4	503	303.3	3.0	503	288.7	3.8	503	288.7
573	217.5	3.8	573	239.7	3.6	573	245.0	7.0	573	325.8	4.4	573	322.8	2.7	573	276.1	4.6	573	276.1
637	216.5	4.0	637	245.7	3.5	637	241.4	7.1	637	325.2	5.4	637	322.8	2.6	637	272.8	3.6	637	272.8
701	217.8	3.6	701	240.5	1.2	701	241.1	7.6	701	321.2	6.1	701	333.7	2.9	701	277.3	3.8	701	277.3
765	236.2	3.6	765	273.1	0.5	765	241.5	7.0	765	309.6	7.1	765	348.8	3.4	765	292.0	3.7	765	292.0
829	238.3	3.8	829	252.2	3.3	829	243.0	6.9	829	303.3	8.6	829	354.4	3.4	829	307.0	4.2	829	307.0
893	230.6	4.6	893	247.6	5.2	893	243.2	7.0	893	303.4	8.1	893	355.3	3.2	893	309.9	4.5	893	309.9
957	230.6	5.5	957	248.8	5.2	957	241.9	6.6											

Table 8 (continued). PILOT BALLOON MEASUREMENTS

11 June 1964		Experiment No. 26		Release Site B		Tracer Release from 1035 to 1135 CST		11 October 1964		Experiment No. 28		Release Site B		Tracer Release from 1105 to 1205 CST	
Ascension No. 1 Begin: 0953 CST		Ascension No. 2 Begin: 1100 CST		Ascension No. 3 Begin: 1135 CST		Ascension No. 1 Begin: 1050 CST		Ascension No. 1 Begin: 1050 CST		Ascension No. 2 Begin: 1210 CST		Ascension No. 1 Begin: 1050 CST		Ascension No. 2 Begin: 1210 CST	
Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	Z(m)	D(deg)	S(m/s)
76	80.0	10.0	76	76.8	5.4	76	133.4	76	147.5	2.9	76	136.1	76	136.1	2.3
152	85.3	11.4	152	80.0	5.0	152	135.1	152	153.7	4.6	152	153.0	152	153.0	2.1
223	85.3	13.0	223	80.6	5.0	223	139.2	223	152.3	6.0	223	141.5	223	141.5	2.6
293	82.3	11.9	293	84.9	4.2	293	142.0	293	152.3	7.1	293	136.2	293	136.2	3.8
363	74.8	6.4	363	102.3	3.8	363	142.3	363	151.8	6.9	363	139.8	363	139.8	4.0
433	74.8	4.7	433	124.6	4.0	433	141.2	433	144.8	5.2	433	144.8	433	144.8	4.0
503	97.1	4.6	503	124.6	5.6	503	141.3	503	123.5	2.8	503	150.2	503	150.2	4.8
573	174.9	3.9	573	131.8	5.7	573	141.5	573	100.8	3.7	573	148.0	573	148.0	4.7
637	164.0	7.3	637	132.9	5.6	637	141.0	637	115.2	3.0	637	139.0	637	139.0	4.5
701	157.4	7.8	701	123.2	5.2	701	140.9	701	118.0	4.4	701	137.2	701	137.2	5.7
765	183.0	6.8	765	101.7	3.8	765	151.0	765	126.9	5.4	765	140.0	765	140.0	6.7
829	189.3	7.2	829	84.8	3.4	829	154.8	829	127.8	6.0	829	143.4	829	143.4	7.2
893	193.0	7.0	893	84.8	3.2	893	151.3								

10 October 1964		Experiment No. 27		Release Site B		Tracer Release from 1130 to 1230 CST		12 October 1964		Experiment No. 29		Release Site A		Tracer Release from 2000 to 2100 CST	
Ascension No. 1 Begin: 1033 CST		Ascension No. 2 Begin: 1135 CST		Ascension No. 3 Begin: 1233 CST		Ascension No. 1 Begin: 1741 CST		Ascension No. 1 Begin: 1741 CST		Ascension No. 2 Begin: 2007 CST		Ascension No. 3 Begin: 2109 CST		Ascension No. 3 Begin: 2109 CST	
Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	Z(m)	D(deg)	S(m/s)
76	041.1	3.9	76	074.2	5.0	76	010.0	76	321.9	5.0	76	334.3	76	349.2	5.7
152	037.8	3.8	152	061.5	4.5	152	016.7	152	321.9	5.4	152	337.3	152	351.6	8.0
223	035.0	3.6	223	054.4	3.1	223	019.8	223	326.6	5.3	223	341.0	223	350.8	9.0
293	042.1	3.2	293	065.4	1.8	293	023.7	293	326.0	4.2	293	341.6	293	352.2	8.4
363	046.1	2.4	363	060.5	1.1	363	032.1	363	325.6	3.0	363	341.0	363	355.1	6.8
433	037.0	2.2	433	056.9	2.0	433	039.3	433	324.9	2.5	433	343.3	433	355.1	5.1
503	033.6	2.2	503	040.0	3.0	503	030.2	503	309.3	2.2	503	343.2	503	346.1	3.6
573	021.4	2.2	573	030.3	3.4	573	040.9	573	286.1	2.0	573	311.1	573	350.9	2.5
637	026.5	3.3	637	035.9	3.1	637	065.1	637	258.7	2.0	637	287.1	637	321.8	1.7
701	030.6	4.0	701	042.0	3.6	701	071.9	701	251.7	2.2	701	314.1	701	292.9	1.4
765	030.3	3.8	765	041.0	4.1	765	069.0	765	237.7	2.6	765	304.9	765	257.5	1.1
829	030.0	2.0	829	040.4	4.0	829	081.1	829	225.2	1.6	829	295.0	829	236.1	1.6

Table 8 (continued). PILOT BALLOON MEASUREMENTS

Experiment No. 30				Experiment No. 32			
Release Site B		Tracer Release from 2000 to 2100 CST		Release Site A		Tracer Release from 1945 to 2045 CST	
16 October 1964				19 October 1964			
Ascension No. 1 Begin: 1900 CST		Ascension No. 2 Begin: 2005 CST		Ascension No. 1 Begin: 1803 CST		Ascension No. 2 Begin: 1955 CST	
Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)
76	118.7	2.0	76	170.9	5.6	76	313.8
152	104.3	1.5	152	157.0	2.7	152	315.5
223	78.3	1.0	223	161.2	2.4	223	311.7
293	82.0	1.0	293	158.0	1.5	293	313.1
363	77.3	1.0	363	120.0	0.7	363	315.8
433	46.8	1.1	433	77.0	0.7	433	317.8
503	24.0	1.5	503	45.2	0.5	503	323.1
573	14.0	1.8	573	1.0	1.0	573	327.4
637	11.3	1.2	637	346.0	1.2	637	326.7
701	357.1	0.9	701	327.8	0.9	701	326.7
765	342.8	2.6	765	291.2	1.0	765	338.3
829	330.3	1.2	829	276.6	1.2	829	348.6
Experiment No. 31				Experiment No. 33			
Release Site A		Tracer Release from 1315 to 1415 CST		Release Site A		Tracer Release from 1915 to 2015 CST	
17 October 1964				October 20, 1964			
Ascension No. 1 Begin: 1239 CST		Ascension No. 2 Begin: 1328 CST		Ascension No. 1 Begin: 1817 CST		Ascension No. 2 Begin: 1922 CST	
Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)
76	152.9	4.5	76	150.9	4.0	76	203.2
152	101.5	1.5	152	151.7	5.5	152	208.8
223	17.8	0.0	223	151.9	6.2	223	215.9
293	169.0	4.4	293	153.4	7.0	293	225.1
363	107.7	3.6	363	148.6	7.3	363	229.0
433	157.4	3.0	433	140.0	5.0	433	231.8
503	151.0	6.0	503	148.3	9.4	503	233.3
573	151.3	6.0	573	148.6	8.4	573	238.8
637	151.0	5.2	637	149.2	5.4	637	229.0
701	149.6	4.8	701	160.2	4.2	701	232.2
765	154.3	4.2	765	166.3	4.3	765	236.0
829	159.1	4.5	829	169.2	3.9	829	237.0
Experiment No. 3				Experiment No. 4			
Ascension No. 1 Begin: 2050 CST		Ascension No. 2 Begin: 2050 CST		Ascension No. 1 Begin: 2017 CST		Ascension No. 2 Begin: 2017 CST	
Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)
76	311.7	4.1	76	204.8	7.0	76	204.8
152	313.6	4.8	152	204.8	11.6	152	204.8
223	316.2	6.0	223	211.8	14.8	223	211.8
293	317.3	7.0	293	223.0	15.8	293	223.0
363	320.3	7.4	363	231.9	17.5	363	231.9
433	324.2	8.2	433	237.2	18.0	433	237.2
503	324.7	8.6	503	239.9	20.2	503	239.9
573	329.2	7.9	573	234.3	20.8	573	234.3
637	330.9	7.0	637	237.3	21.6	637	237.3
701	335.9	6.6	701	241.2	20.3	701	241.2
765	343.0	6.2	765	239.6	20.8	765	239.6
829	340.3	6.0	829	242.0	22.6	829	242.0

Table 8 (continued). PILOT BALLOON MEASUREMENTS

Experiment No. 34				Experiment No. 36							
Release Site		Release Site A		Release Site A		Release Site A					
Tracer Release from 1920 to 2020 CST				Tracer Release from 1230 to 1330 CST							
March 7, 1965				March 8, 1965							
Ascension No. 1		Ascension No. 2		Ascension No. 1		Ascension No. 2					
Begin: 1822 CST		Begin: 1928 CST		Begin: 1110 CST		Begin: 1232 CST					
Ascension No. 4		Ascension No. 3		Ascension No. 3		Ascension No. 3					
Begin: 1331 CST		Begin: 2022 CST		Begin: 1301 CST		Begin: 2130 CST					
Z(m)	D(deg)	S(m/s)	D(deg)	Z(m)	D(deg)	S(m/s)	D(deg)				
76	5.9	10.8	13.6	76	335.5	5.5	338.4				
152	7.1	11.0	16.7	152	340.0	5.8	345.8				
223	9.0	9.5	15.8	223	344.9	5.2	348.0				
293	6.8	12.1	14.2	293	352.2	4.1	348.1				
363	6.8	12.7	14.0	363	352.2	4.1	348.1				
433	5.5	10.9	12.8	433	347.7	9.0	347.7				
503	2.1	10.6	11.8	503	346.2	8.4	346.2				
573	1.6	11.3	11.8	573	346.6	7.0	346.6				
637	357.9	12.7	8.9	637	347.9	6.4	347.9				
701	352.1	13.1	8.0	701	347.9	6.4	347.9				
765	350.7	13.5	7.0	765	346.2	8.4	346.2				
829	350.2	14.2	5.1	829	346.6	7.0	346.6				
Experiment No. 35				Experiment No. 37							
Release Site A		Release Site A		Release Site A		Release Site A					
Tracer Release from 1230 to 1330 CST				Tracer Release from 2030 to 2130 CST							
March 6, 1965				March 8, 1965							
Ascension No. 1		Ascension No. 2		Ascension No. 1		Ascension No. 2					
Begin: 1141 CST		Begin: 1300 CST		Begin: 1930 CST		Begin: 2030 CST					
Ascension No. 4		Ascension No. 3		Ascension No. 3		Ascension No. 3					
Begin: 1340 CST		Begin: 1335 CST		Begin: 2100 CST		Begin: 2130 CST					
Z(m)	D(deg)	S(m/s)	D(deg)	Z(m)	D(deg)	S(m/s)	D(deg)				
76	299.0	8.2	297.1	76	279.0	5.7	292.7				
152	288.0	11.2	298.0	152	283.6	8.8	289.9				
223	284.2	11.2	296.9	223	279.0	9.0	292.6				
293	285.0	10.8	295.3	293	284.9	10.3	292.0				
363	285.0	9.6	296.3	363	285.5	13.3	296.5				
433	290.3	8.6	297.7	433	286.8	12.5	302.3				
503	298.4	13.3	298.4	503	289.0	11.6	303.4				
573	299.6	12.6	299.6	573	292.8	13.7	303.4				
637				637	297.1	16.6	302.9				
701				701	296.8	18.2	304.5				
765				765	292.2	18.6	304.4				
829				829	292.2	18.4	304.4				
Z(m)	D(deg)	S(m/s)	D(deg)	Z(m)	D(deg)	S(m/s)	D(deg)				
76	299.0	8.2	297.1	76	292.7	6.4	288.2				
152	288.0	11.2	298.0	152	289.9	8.3	289.7				
223	284.2	11.2	296.9	223	292.6	9.2	291.7				
293	285.0	10.8	295.3	293	292.0	9.3	297.7				
363	285.0	9.6	296.3	363	296.5	9.4	301.2				
433	290.3	8.6	297.7	433	302.3	10.3	301.2				
503	298.4	13.3	298.4	503	303.4	10.3	301.2				
573	299.6	12.6	299.6	573	303.4	12.1	304.0				
637				637	302.9	12.6	305.4				
701				701	304.5	14.0	302.8				
765				765	304.4	15.6	300.0				
829				829	304.4	15.6	300.0				
Z(m)	D(deg)	S(m/s)	D(deg)	Z(m)	D(deg)	S(m/s)	D(deg)				
76	299.0	8.2	297.1	76	292.7	6.6	292.3				
152	288.0	11.2	298.0	152	289.7	9.0	296.7				
223	284.2	11.2	296.9	223	291.7	8.8	297.4				
293	285.0	10.8	295.3	293	292.0	10.3	298.1				
363	285.0	9.6	296.3	363	301.2	13.4	298.1				
433	290.3	8.6	297.7	433	301.2	13.4	300.1				
503	298.4	13.3	298.4	503	301.2	13.4	301.7				
573	299.6	12.6	299.6	573	304.0	13.3	302.5				
637				637	305.4	12.2	303.8				
701				701	302.8	11.5	303.8				
765				701	302.0	12.7	302.0				
829				701	301.3	14.6	301.3				
Z(m)	D(deg)	S(m/s)	D(deg)	Z(m)	D(deg)	S(m/s)	D(deg)				
76	299.0	8.2	297.1	76	292.7	6.6	292.3				
152	288.0	11.2	298.0	152	289.7	9.0	296.7				
223	284.2	11.2	296.9	223	291.7	8.8	297.4				
293	285.0	10.8	295.3	293	292.0	10.3	298.1				
363	285.0	9.6	296.3	363	301.2	13.4	298.1				
433	290.3	8.6	297.7	433	301.2	13.4	300.1				
503	298.4	13.3	298.4	503	301.2	13.4	301.7				
573	299.6	12.6	299.6	573	304.0	13.3	302.5				
637				637	305.4	12.2	302.5				
701				637	302.8	11.5	303.8				
765				701	302.0	12.7	302.0				
829				701	301.3	14.6	301.3				
Z(m)	D(deg)	S(m/s)	D(deg)	Z(m)	D(deg)	S(m/s)	D(deg)				
76	299.0	8.2	297.1	76	292.7	6.6	292.3				
152	288.0	11.2	298.0	152	289.7	9.0	296.7				
223	284.2	11.2	296.9	223	291.7	8.8	297.4				
293	285.0	10.8	295.3	293	292.0	10.3	298.1				
363	285.0	9.6	296.3	363	301.2	13.4	298.1				
433	290.3	8.6	297.7	433	301.2	13.4	300.1				
503	298.4	13.3	298.4	503	301.2	13.4	301.7				
573	299.6	12.6	299.6	573	304.0	13.3	302.5				
637				637	305.4	12.2	302.5				
701				637	302.8	11.5	303.8				
765				701	302.0	12.7	302.0				
829				701	301.3	14.6	301.3				

Table 8 (continued). PILOT BALLOON MEASUREMENTS

Experiment No. 36				Experiment No. 40			
Release Site A		Release Site A		Release Site A		Release Site A	
March 11, 1965		March 14, 1965		March 14, 1965		March 14, 1965	
Tracer Release from 2030 to 2130 CST		Tracer Release from 2030 to 2130 CST		Tracer Release from 2030 to 2130 CST		Tracer Release from 2030 to 2130 CST	
Ascension No. 1		Ascension No. 1		Ascension No. 1		Ascension No. 1	
Begin: 2013 CST		Begin: 2056 CST		Begin: 1010 CST		Begin: 1101 CST	
Z(m)	D(deg)	S(m/s)	D(deg)	Z(m)	D(deg)	S(m/s)	D(deg)
76	257.4	5.9	307.8	76	301.2	12.5	288.1
152	237.7	4.4	311.5	152	300.7	13.8	291.3
223	234.4	4.2	315.6	223	299.1	13.2	292.0
293	271.9	4.6	313.2	293	296.5	10.0	290.8
363	271.3	4.8	302.8	363	297.6	8.2	290.9
433	273.1	4.8	303.8				
503	272.2	5.2	304.6	433	299.8	6.6	291.9
573	274.0	5.2	284.0	503	304.3	7.8	290.0
637	277.0	5.2	270.6	573	308.0	9.0	288.3
701	278.6	5.2	265.7	637	309.5	8.2	287.2
				701	307.3	7.5	287.9
765	280.1	5.2	271.9				
829	280.1	5.0	287.7	765	309.4	7.0	281.7
				829	309.4	6.4	281.7
Experiment No. 39				Experiment No. 41			
Release Site A		Release Site A		Release Site A		Release Site A	
March 13, 1965		March 15, 1965		March 15, 1965		March 15, 1965	
Tracer Release from 1220 to 1320 CST		Tracer Release from 1220 to 1320 CST		Tracer Release from 2050 to 2150 CST		Tracer Release from 2050 to 2150 CST	
Ascension No. 1		Ascension No. 1		Ascension No. 1		Ascension No. 1	
Begin: 1007 CST		Begin: 1251 CST		Begin: 1902 CST		Begin: 2055 CST	
Z(m)	D(deg)	S(m/s)	D(deg)	Z(m)	D(deg)	S(m/s)	D(deg)
76	231.1	1.0	334.1	76	330.0	4.2	339.1
152	237.8	1.4	340.7	152	329.2	4.0	342.2
223	241.9	1.0	317.3	223	330.1	5.0	343.7
293	257.0	1.4	298.6	293	327.1	7.0	344.1
363	252.5	1.1	333.9	363	325.3	7.7	346.9
433	256.2	2.0	305.1	433	323.4	7.3	353.6
503	247.3	2.0	323.7	503	320.9	7.8	359.3
573	230.5	1.2	294.0	573	316.5	6.4	356.0
637	273.8	0.7	281.2	637	308.7	6.2	337.8
701	280.0	0.5	250.1	701	302.3	6.7	324.0
765	281.3	0.1	245.5				
829	281.5	0.8	251.7	765	298.3	5.2	289.2
				829	294.7	3.6	289.2

Table 8 (continued). PILOT BALLOON MEASUREMENTS

March 11, 1955		Experiment No. 42		Release Site E		Tracer Release from 2030 to 2130 CST	
Ascension No. 1		Ascension No. 2		Ascension No. 3			
Begin: 1950 CST		Begin: 2050 CST		Begin: 2018 CST			
Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)
76	107.9	10.3	76	114.0	11.5	76	124.2
152	111.2	12.1	152	119.5	15.0	152	125.5
223	116.1	12.0	223	122.2	14.1	223	128.6
293	124.2	13.9	293	125.8	16.6	293	133.0
363	130.1	18.3	363	123.5	27.2	363	131.8
433	134.0	21.8	433	119.4	32.2	433	131.1
503	138.2	22.2					
573	132.6	23.5					
637	136.3	22.5					
701	139.2	22.9					
765	136.1	23.5					
829	137.7	22.2					

March 17, 1965		Experiment No. 43		Release Site A		Tracer Release from 2000 to 2100 CST	
Ascension No. 1		Ascension No. 2		Ascension No. 3			
Begin: 2007 CST		Begin: 2036 CST		Begin: 2102 CST			
Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)	S(m/s)	Z(m)	D(deg)
76	288.7	7.5	76	294.3	7.2	76	271.8
152	284.8	8.2	152	292.6	6.4	152	271.0
223	286.4	10.0	223	288.1	8.0	223	272.0
293	283.0	9.8	293	288.8	9.0	293	273.7
363	278.8	9.9	363	285.6	9.4	363	095.2
			433	283.3	14.2	433	101.5
			503	286.2	19.0		
			573	285.3	20.2		
			637	286.8	19.8		
			701	290.2	20.0		

RAWINSONDE MEASUREMENTS

Rawinsonde observations for Columbia, Missouri, and Peoria, Illinois, the two nearest regular Weather Bureau upper-air sounding stations, are presented in Table 9. The table includes the latest soundings taken before the beginning of the tracer dissemination and the earliest soundings following the end of the experiment. For afternoon experiments, the 12Z (0600 CST) and 00Z (1800 CST) soundings for the same day are given; for evening experiments, the 00Z (1800 CST) sounding and the 12Z (0600 CST) sounding for the next day are given. Only sounding data up to 700 mb are presented. The pressure, temperature, dewpoint, and height above MSL of each mandatory level and significant level are given as reported on WB Form 31-A. In addition, the wind direction and speed are listed for the surface and each 50 mb beginning with either 1000 or 950 mb. The methods, techniques, and procedures of data processing are presented in U. S. Weather Bureau (1964 c).

TABLE 9. RAWINSONDE MEASUREMENTS

Symbols

P(mb)	: Pressure in whole millibars
Z(m)	: Height above MSL to the nearest whole meter for standard levels and to the nearest 10 meters for all other levels
T(°C)	: Temperature to the nearest tenth of a degree Celsius
T _d (°C)	: Dewpoint to the nearest tenth of a degree Celsius
D(deg)	: Wind direction to the nearest whole degree of azimuth
S(m/s)	: Wind speed in whole meters per second
MB	: Motor boating - relative humidity too low to be accurately measured
-	: Missing data

Table 9 (continued). RAWINSONDE MEASUREMENTS

27 May 1963		Experiment No. 2				Tracer Release from 1410 to 1440 CST				28 May 1963				Experiment No. 3				Tracer Release from 1000 to 1100 CST					
Station: Columbia, Mo. Ascension Start: 0600 CST						Station: Peoria, Ill. Ascension Start: 0600 CST						Station: Columbia, Mo. Ascension Start: 0600 CST						Station: Peoria, Ill. Ascension Start: 0600 CST					
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
980	238	15.8	15.8	070	2	988	200	14.4	13.3	060	4	983	238	15.2	14.6	280	4	986	200	12.2	12.2	070	2
950	510			107	5	950	530			106	9	950	520			296	10	952	490	16.4	14.0		
900	959			091	3	900	987			134	11	900	982			282	13	950	500			181	2
850	1438	9.9	9.5	340	6	850	1466	10.6	9.7	149	7	870	1250	9.0	7.2			900	976			240	5
800	1941			352	3	800	1969			145	8	850	1458	11.9	7.7	260	14	850	1456	11.0	9.0	241	6
769	2260	6.3	2.8			750	2510			151	10	826	1690	10.3	3.1			800	1960			229	7
750	2470			006	7	700	3063	2.3	1.6	159	7	800	1963			260	12	750	2500	5.0	3.5	235	9
700	3031	2.0	- 0.6	001	3							770	2280	5.8	1.4			700	3050	1.6	- 0.3	241	11
												750	2490			255	12						
												700	3054	1.6	- 3.5	267	11						
Station: Columbia, Mo. Ascension Start: 1800 CST						Station: Peoria, Ill. Ascension Start: 1800 CST						Station: Columbia, Mo. Ascension Start: 1800 CST						Station: Peoria, Ill. Ascension Start: 1800 CST					
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
980	238	24.4	17.1	190	3	986	200	17.8	16.7	335	3	987	238	19.4	15.0	300	8	990	200	18.9	15.6	305	5
950	500			205	4	950	510			290	3	950	570			290	11	950	570			302	6
900	979			230	7	900	980			262	6	900	1025			293	9	900	1012			210	9
850	1466	14.6	9.8	240	9	850	1459	11.0	9.3	259	5	850	1502	9.5	8.0	300	10	850	1491	10.1	8.3	287	10
804	1900	10.6	6.7			810	1855	8.8	7.1			800	2005			313	9	800	1993	6.8	5.3	273	4
800	1975			266	11	800	1963			270	9	773	2290	5.8	- 1.2			750	2510			293	10
750	2490			264	16	750	2500			286	8	755	2470	5.1	-16.6			700	3082	2.0	- 2.5	292	11
720	2830	4.7	- 2.6			700	3053	1.9	- 1.	287	11	750	2530			325	13						
700	3075	3.8	- 7.6	272	16							737	2670	7.4	MB								
												700	3100	5.8	MB	320	14						

Table 9 (continued). RAWINSONDE MEASUREMENTS

19 July 1963										22 July 1963										Tracer Release, from 1104 to 1204										
Experiment No. 4										Experiment No. 5																				
Station: Columbia, Mo. Ascension Start: 0600 CST										Station: Columbia, Mo. Ascension Start: 0600 CST										Station: Peoria, Ill. Ascension Start: 0600 CST										
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	
986	238	24.7	21.0	210	3	993	200	21.1	18.9	020	7	983	238	19.9	17.1	150	5	991	200	18.9	17.2	165	4	967	410	23.5	17.7	283	6	
950			234		18	961	500	19.2	16.6			965	400	25.0	17.7			950	410	23.5	17.7			950	570			283	6	
932	740	25.4	17.9			950	600			348	13	930	540					900	1038					900	1038			242		
900	560			249	18	930	780	21.3	17.8		8	900	710	23.4	15.8			888	1140	18.5	10.0									
866	1370	22.1	10.5			900	1053			315			1008			193	6													
850	1542	22.1	5.0	256	12	850	1547	17.4	14.5	259	12	850	1504	21.1	- 6.5	264	3	858	1440	17.9	- 1.4			850	1528	17.7	- 5.6	264	5	
847	1560	22.1	4.1			800	2065			255	18	820	1810	20.3	MB			850	1528	17.7	- 5.6			800	2044			321	7	
836	1680	21.0	8.7			794	2110	14.5	12.6			800	2026			297	5	800	2044					786	2180	15.0	2.3			
806	1930	19.5	- 1.0			750	2600			255	18	794	2080	18.5	- 8.6			750	2590					750	2590			351	8	
800	2066			257	12	707	3100	8.0	4.8				2560			303	11													
767	2410	17.6	- 8.6			700	3184	7.5	- 4.0	251	15	743	2650	13.4	7.3			734	2760	9.1	- 1.1			734	2760			360	9	
750	2610			260	16							700	3157	10.2	2.3	322	11			700	3156	6.1	5.0							
700	3200	11.6	- 9.7	264	11																									
Station: Columbia, Mo. Ascension Start: 1800 CST										Station: Columbia, Mo. Ascension Start: 1800 CST										Station: Peoria, Ill. Ascension Start: 1800 CST										
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	
983	238	36.4	21.8	230	8	987	200	31.1	23.9	230	4	983	238	29.4	19.4	140	3	989	200	31.1	20.0	200	4	989	200			200	4	
970	350	33.2	18.9			950	530			238	8	960	440	20.6	18.1			950	550			206	3	950	550			206	3	
950	540			224	12	900	1022			247	12	950	530			111	1	900	1037			214	3	900	1037			214	3	
900	1031			230	11	850	1523	21.0	16.6	254	19	900	1011			304	3	850	1534	19.2	13.1	242	2	850	1534			242	2	
850	1535	22.8	16.1	243	10	802	2000	17.0	13.5			850	1515	22.1	9.3	280	6	800	2052			246	2	800	2052			246	2	
800	2061			246	14	800	2046			256	19	800	2039			279	10	783	2240	12.8	8.9			783	2240					
784	2240	16.4	12.9			790	2140	18.3	7.4			750	2307			310	10	755	2540	12.3	- 5.7			755	2540			305	2	
750	2610			262	16	750	2600			255	20	700	3174	12.0	3.5	319	15	750	2600					750	2600					
714	3030	12.0	- 0.2			700	3177	11.2	4.0	255	18							722	3020	9.8	- 1.1			722	3020					
700	3192	11.6	- 8.3	271	12													700	3168	7.8	- 2.0			700	3168			328	8	

Table 9 (continued). RAWINSONDE MEASUREMENTS

[illegible]

Table 9 (continued). RAWINSONDE MEASUREMENTS

26 July 1963										12 September 1963										Tracer Release from 1115 to 1215 CST									
Experiment No. 8										Experiment No. 9										Station: Peoria, Ill. Ascension Start: 0600 CST									
Station: Columbia, Mo. Ascension Start: 0600 CST										Station: Columbia, Mo. Ascension Start: 0600 CST										Station: Peoria, Ill. Ascension Start: 0600 CST									
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
990	238	20.6	18.8	120	3	998	200	20.6	18.3	140	2	984	238	21.8	20.3	250	4	986	200	20.6	18.3	290	6	986	200	20.6	18.3	290	6
955	550	21.9	18.7	183	10	964	500	22.2	17.5	199	9	950	540	23.5	16.5	284	11	953	500	20.2	18.2	304	15	953	500	20.2	18.2	304	15
950	600			180	10	950	620			196	8	915	880			310	12	950	510					950	510				
900	1061					900	1096			173	7	900	1020			299	12	929	700	21.5	17.7	295	15	929	700	21.5	17.7	295	15
876	1290	16.7	10.7			850	1585	15.3	11.9			850	1517	19.2	13.5			900	992					900	992				
850	1549	15.6	9.2	172	9	800	2098	12.0	9.0	149	7	834	1690	18.0	12.6	285	10	850	1484	17.5	8.8	292	16	850	1484	17.5	8.8	292	16
800	2063			167	8	750	2630			143	9	800	2036					800	2001			283	16	800	2001			283	16
750	2600			161	6	717	3010	8.1	4.5			794	2100	15.4	- 1.6			790	2100	13.0	7.5	277	24	790	2100	13.0	7.5	277	24
728	2850	9.0	5.2			700	3209	7.5	2.0	151	8	759	2480	13.0	- 3.7	294	13	750	2530	10.9	0.3	271	23	750	2530	10.9	0.3	271	23
700	3178	7.2	2.5	147	5							750	2580					700	3116	7.0	- 2.5			700	3116	7.0	- 2.5		
												700	3155	7.3	- 5.1	303	15												

Station: Columbia, Mo. Ascension Start: 1800 CST										Station: Peoria, Ill. Ascension Start: 1800 CST										Station: Peoria, Ill. Ascension Start: 1800 CST									
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
988	238	30.0	15.6	160	5	996	200	28.9	19.4	170	5	989	238	20.2	16.4	360	10	995	200	13.9	10.6	020	8	995	200	13.9	10.6	020	8
967	420	27.6	14.5			982	330	27.7	17.2			950	590			005	13	983	300	11.9	8.4			983	300	11.9	8.4		
950	590			156	11	950	610			184	8	900	1047			341	11	950	600			026	13	950	600			026	13
900	1061			156	9	900	1090			178	8	856	1470	12.4	10.3			904	1000	7.7	6.3			904	1000	7.7	6.3		
850	1555	17.3	12.6	147	7	865	1420	17.6	14.1			850	1530	12.7	9.9	331	8	900	1034			030	11	900	1034			030	11
830	1750	15.4	11.8			850	1582	16.9	12.8	178	8	820	1830	14.0	7.3			880	1210	11.4	10.0			880	1210	11.4	10.0		
800	2069			180	6	805	2040	14.5	8.6			800	2042			324	9	850	1502	10.6	9.2	002	10	850	1502	10.6	9.2	002	10
750	2600			201	9	800	2099			179	7	781	2240	12.4	1.1			800	2017			341	11	800	2017			341	11
736	2740	10.0	4.2			789	2210	14.4	3.9			750	2590			323	11	770	2340	8.0	7.0			770	2340	8.0	7.0		
714	3000	10.2	- 1.8			750	2630			187	7	706	3030	6.2	- 2.5			750	2550			308	9	750	2550			308	9
700	3185	9.3	- 2.6	180	8	700	3217	8.1	- 0.8	193	8	700	3155	6.0	- 3.4	311	14	700	3117	3.9	1.8	320	7	700	3117	3.9	1.8	320	7

Table 9 (continued). RAWINSONDE MEASUREMENTS

14 September 1963				Experiment No. 10				Tracer Release from 1045 to 1145 CST				16 September 1963				Experiment No. 11				Tracer Release from 1100 to 1200 CST			
Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST				Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST				Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
992	238	9.3	9.3	045	2	1000	200	6.1	4.4	065	2	993	238	18.0	17.6	110	3	1001	200	16.1	15.0	100	1
952	580	13.5	10.3			976	400	11.6	6.3			952	590	17.4	16.1			1000	209	16.3	15.0	100	1
950	600			142	3	950	620			130	4	950	610			192	8	974	440	20.0	16.3		
900	1053			164	7	900	1075			165	1	930	790	18.5	16.1			950	650			210	4
861	1400	9.5	7.6			897	1100	8.0	2.8			900	1082			202	5	900	1113			211	6
850	1530	10.4	7.4	148	4	877	1300	12.1	-9.6			850	1567	13.3	11.0	200	4	850	1597	12.3	10.5	208	8
838	1640	11.4	6.5			850	1552	13.5	-11.1	132	3	800	2075			218	6	800	2103			215	10
800	2036			128	7	800	2060			125	7	775	2330	8.0	5.6			775	2370	7.3	3.5		
760	2460	6.2	-2.0			750	2600			115	7	752	2580	7.8	-10.0			750	2650			214	5
750	2560			127	8	720	2930	8.3	MB			750	2600			224	9	745	2700	9.7	-13.5		
730	2790	6.2	-13.3			700	3166	6.4	MB	135	6	709	3050	7.8	-14.5			700	3206	7.1	MB	205	4
700	3142	8.7	MB	108	7							700	3175	7.0	-8.3	206	7						
Station: Columbia, Mo. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Columbia, Mo. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Columbia, Mo. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
990	238	23.1	12.7	110	4	997	200	20.6	8.3	110	4	992	238	27.4	18.6	170	5	1000	200	26.1	18.9	150	3
950	590			129	6	950	600			118	5	950	600			159	8	950	650			171	5
900	1059			135	7	900	1072			130	5	900	1093			159	9	900	1120			175	7
850	1542	11.0	7.5	151	7	882	1260	11.6	2.3			850	1583	15.6	13.0	166	9	850	1609	15.3	11.0	177	9
830	1740	9.1	6.4			862	1440	14.7	-10.2			800	2096			178	9	800	2121			182	9
817	1880	11.7	7.5			850	1553	14.0	-8.1	132	6	750	2630			192	10	750	2660	7.1	4.4	204	8
800	2047			159	9	816	1900	12.2	-3.6			700	3206	5.6	3.4	203	8	731	2870	6.4	2.5		
769	2380	11.6	-12.0			800	2062			176	10							711	3100	7.5	-14.7		
750	2590			158	5	788	2200	11.7	-8.8									700	3225	7.0	MB	230	7
732	2780	8.0	MB			778	2300	13.0	-10.8														
713	3000	9.7	MB			750	2600			155	9												
700	3155	8.5	MB	130	4	700	3173	7.6	MB	132	7												

Table 9 (continued). RAWINSONDE MEASUREMENTS

Tracer Release from 2000 to 2100 CST																	
17 September 1963						Experiment No. 12			18 September 1963			Experiment No. 13					
Station: Columbia, Mo. Ascension Start: 1800 CST						Station: Peoria, Ill. Ascension Start: 1800 CST						Station: Peoria, Ill. Ascension Start: 1800 CST					
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
993	238	28.2	18.5	070	3	1001	200	26.1	18.3	240	2	990	238	28.7	16.0	360	1
950	620			128	3	1000	209	26.0	17.9	240	2	950	600			224	2
900	1105			181	4	978	400	25.8	14.3			900	1075			208	3
850	1598	17.0	12.4	178	5	950	660			217	5	850	1568	16.5	8.5	193	4
800	2112			193	7	900	1129			211	5	822	1840	13.8	6.7		
758	2560	8.8	6.9			850	1619	15.3	10.3	185	5	803	2040	15.1	- 6.5		
750	2640			201	7	824	1890	13.0	9.1			800	2081			192	3
730	2870	9.5	2.8			800	2131			163	4	750	2620			024	1
700	3219	6.6	- 2.3	212	3	754	2640	10.2	5.0			744	2690	13.0	MB		
						750	2670			290	3	732	2710	11.9	- 8.6		
						700	3243	7.0	2.1	258	2	700	3202	9.0	0.2	358	1
Tracer Release from 2000 to 2030 CST												Tracer Release from 2000 to 2100 CST					
Station: Columbia, Mo. Ascension Start: 0600 CST (18 Sept.)						Station: Peoria, Ill. Ascension Start: 0600 CST (18 Sept.)						Station: Peoria, Ill. Ascension Start: 0600 CST (19 Sept.)					
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
994	238	18.0	16.4	160	3	1000	200	16.7	14.4	160	3	990	238	15.8	13.5	170	3
973	410	23.0	14.8			980	380	23.5	13.9			967	450	23.7	14.6		
950	620			180	7	950	630	21.6	8.8	229	7	950	600			235	5
945	670	22.1	9.3			900	1111			206	5	900	1061			250	4
900	1096	18.0	10.6	172	4	862	1460	15.2	9.1			855	1500	14.8	6.7		
850	1583	14.7	10.1	155	2	850	1598	14.4	8.5	258	2	850	1548	15.1	3.0	252	3
821	1860	12.6	9.4			800	2108			304	1	836	1700	16.0	- 9.8		
800	2085			070	3	777	2330	9.1	5.6			800	2062			125	2
750	2610			055	3	754	2600	9.4	4.0			780	2280	14.1	-11.4		
707	3060	6.4	0.9			750	2620			297	1	762	2480	12.9	1.3		
700	3192	6.1	- 0.2	082	3	700	3215	6.5	- 0.8	258	2	750	2600			120	2
												700	3178	6.8	- 4.3	235	2

Table 9 (continued). RAWINSONDE MEASUREMENTS

1 April 1964				Experiment No. 14				Tracer Release from 1200 to 1300 CST				7 April 1964				Experiment No. 16				Tracer Release from 2048 to 2148 CST			
Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST				Station: Columbia, Mo. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
987	238	2.2	-3.0	140	6	998	200	-2.8	-6.1	130	5	989	238	6.1	-1.8	320	8	991	200	5.0	0.6	300	8
962	440	1.5	-5.0			950	580			150	10	970	380	5.0	-3.1			965	400	2.1	-3.2		
950	540			151	12	914	890	-3.8	-11.1			950	550			312	10	950	530			303	14
941	620	10.4	-0.4			900	1020			175	4	900	1000			316	11	900	973			299	16
907	930	10.8	-4.4			898	1030	0.4	-16.0			876	1210	-2.9	-6.4			850	1424	-6.0	-8.0	299	14
900	998			184	11	860	1390	3.0	-17.8			850	1454	-4.4	-7.3	318	19	828	1630	-7.9	-9.3		
850	1472	8.4	1.5	224	11	850	1481	2.8	-16.3	286	6	808	1850	-7.0	-9.4			800	1897			299	15
841	1550	8.1	2.3			818	1790	2.0	-10.9			800	1930			320	18	794	1940	-8.8	-10.3		
800	1969			244	11	800	1970			310	9	752	2410	-4.5	-14.1			767	2210	-7.4	-10.8		
792	2040	3.6	0.0			750	2490			312	13	750	2440			303	12	750	2400			290	20
750	2490			275	16	746	2520	-4.1	-8.0			700	2980	-4.6	-16.5	276	18	702	2910	-10.6	-27.3		
738	2600	1.6	-4.1			700	3026	-6.8	-13.7	311	15							700	2933	-10.4	MB	273	23
700	3047	-1.7	-6.2	301	16																		
Station: Columbia, Mo. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Columbia, Mo. Ascension Start: 0600 CST (8 April)				Station: Peoria, Ill. Ascension Start: 0600 CST (8 April)				Station: Peoria, Ill. Ascension Start: 0600 CST (8 April)				Station: Peoria, Ill. Ascension Start: 0600 CST (8 April)			
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
977	238	21.0	8.6	170	9	988	200	7.8	0.6	140	7	994	238	1.0	-7.0	320	11	995	200	0.0	-3.9	300	8
950	480			176	12	976	300	6.7	-4.1			950	600			315	15	950	560			305	13
900	940			188	14	950	520			148	18	900	1026			320	16	900	993			308	15
867	1260	12.0	6.3			916	820	4.2	-5.3			861	1380	-8.9	-12.3			896	1010	-7.0	-9.1		
850	1422	11.0	5.7	220	15	900	965			184	19	850	1471	-9.4	-12.2	326	14	850	1436	-10.0	-11.9	309	18
800	1925			242	20	894	1020	10.6	7.7			827	1680	-10.6	-12.8			810	1810	-12.5	-14.1		
791	2030	7.5	3.8			860	1350	10.4	5.0			814	1800	-9.6	-14.1			800	1901			305	18
766	2290	9.8	-3.8			850	1441	9.7	4.8	216	18	800	1938			318	14	796	1940	-10.0	-11.5		
750	2460			261	21	800	1942			219	21	770	2240	-11.5	-28.1			750	2400			312	18
717	2820	5.4	-2.6			750	2460			225	22	750	2440			315	16	702	2900	-13.5	-17.1		
700	3025	4.0	-5.0	270	23	746	2500	2.0	-1.1			730	2640	-9.8	MB			700	2923	-13.6	17.4	305	19
						700	3023	-0.4	-2.3	242	18	700	2966	-10.9	MB	303	19						

Table 9 (continued). RAWINSONDE MEASUREMENTS

8 April 1964										9 April 1964										Tracer Release from 2045 to 2145 CST									
Experiment No. 17										Experiment No. 18										Station: Peoria, Ill. Ascension Start: 1800 CST									
Station: Columbia, Mo. Ascension Start: 1800 CST										Station: Columbia, Mo. Ascension Start: 1800 CST										Station: Peoria, Ill. Ascension Start: 1800 CST									
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
995	238	7.5	- 4.6	310	9	997	200	7.2	- 5.0	310	7	991	238	17.6	- 1.1	250	8	996	200	12.8	- 1.7	230	6	996	200	12.8	- 1.7	230	6
950	610			303	9	977	370	5.2	- 8.0			950	600			232	12	969	410	10.5	- 5.5			969	410	10.5	- 5.5		
900	1052			310	10	950	600			314	11	900	1048			236	11	950	590			233	10	950	590			233	10
850	1506	- 5.1	-15.2	317	11	900	1027			317	12	850	1516	3.3	- 4.2	244	10	900	1040			243	11	900	1040			243	11
815	1830	- 8.5	-18.0			850	1480	- 5.1	-11.7	321	12	842	1600	2.6	- 5.6			850	1504	1.8	- 6.0	273	13	850	1504	1.8	- 6.0	273	13
800	1978			330	14	800	1953			326	12	800	2005			282	12	802	1960	- 0.4	- 8.5			802	1960	- 0.4	- 8.5		
799	1990	- 9.6	-21.3			788	2070	-10.7	-14.6			793	2080	1.0	-10.5			800	1991			272	16	800	1991			272	16
778	2190	- 5.8	-23.6			766	2280	-10.6	-22.8			750	2510			301	14	750	2490			314	14	750	2490			314	14
750	2470			340	16	750	2440			333	18	700	3061	- 8.2	-15.2	300	14	748	2500	- 5.2	-10.7			748	2500	- 5.2	-10.7		
700	3019	- 6.9	MB	332	19	720	2770	-12.9	-29.3									710	2920	- 8.0	-19.3			710	2920	- 8.0	-19.3		
						702	2960	-12.0	MB									700	3039	- 8.3	-20.7	304	16						
						700	2977	-12.1	MB	331	19																		

Station: Columbia, Mo. Ascension Start: 0600 CST (9 April)										Station: Columbia, Mo. Ascension Start: 0600 CST (10 April)										Station: Peoria, Ill. Ascension Start: 0600 CST (10 April)									
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
997	238	- 0.6	- 4.7	220	3	1001	200	- 2.2	- 5.6	250	2	991	238	10.1	0.9	280	3	996	200	3.9	1.1	275	2	996	200	3.9	1.1	275	2
967	490	4.0	- 7.5			1000	208	- 2.0	- 5.6	250	2	961	510	10.5	0.8			978	350	8.0	1.2			978	350	8.0	1.2		
950	630			294	6	984	330	2.7	- 6.0			950	600			275	13	966	460	9.0	- 1.5			966	460	9.0	- 1.5		
900	1062			308	6	950	620			317	8	935	730	12.5	1.2	288	19	950	600			340	8	950	600			340	8
868	1360	- 2.5	-14.9			913	940	- 1.4	-11.6			900	1042					900	1034			331	8	900	1034			331	8
850	1518	- 1.0	-19.0	315	6	900	1053			330	11	850	1514	6.4	- 2.5	291	15	850	1498	1.3	-11.8	313	11	850	1498	1.3	-11.8	313	11
847	1560	- 0.9	-20.5			884	1190	- 2.9	-11.6			800	2008			291	15	846	1530	1.1	-12.0			846	1530	1.1	-12.0		
800	2002			314	8	850	1504	- 5.6	-16.8	325	11	751	2510	- 1.5	- 7.8			800	1783			310	14	800	1783			310	14
796	2050	- 0.9	MB			840	1600	- 6.4	-18.1			750	2520			288	14	796	2000	- 1.1	- 16.5			796	2000	- 1.1	- 16.5		
750	2530			306	11	812	1860	- 4.4	-23.0			700	3071	- 5.8	-10.2	280	11	750	2490			310	18	750	2490			310	18
738	2660	- 3.5	-22.2			800	1980			313	12							700	3032	- 8.9	-20.4	314	18	700	3032	- 8.9	-20.4	314	18
700	3058	- 6.2	-24.0	304	11	787	2100	- 3.4	MB																				
						758	2390	- 4.3	-22.9																				
						750	2490			312	13																		
						700	3029	- 7.2	-23.5	313	14																		

Table 9 (continued). RAWINSONDE MEASUREMENTS

2 June 1964				3 June 1964				Tracer Release from 1040 to 1140 CST			
Experiment No. 19				Experiment No. 20							
Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
989	238	12.9	6.3	040	3	994	200	10.6	5.6	360	5
964	450	14.7	- 0.2			980	310	9.2	- 0.7		
950	590			004	4	957	510	9.2	2.1	080	4
900	1031			334	6	950	590				
891	1140	10.2	- 0.3			906	980	7.1	- 0.9		
850	1504	6.8	- 0.9	310	8	900	1020			123	3
800	1998			295	9	866	1340	3.5	1.3		
759	2410	- 1.2	- 3.4			850	1486	3.0	1.3	217	3
750	2520			285	8	824	1740	2.0	0.8		
700	3062	- 5.0	- 6.8	288	9	800	1976			252	6
						750	2500			247	7
						700	3037	- 5.5	- 6.7	250	8
Station: Columbia, Mo. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Columbia, Mo. Ascension Start: 1800 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
987	238	21.1	5.9	300	8	991	200	17.8	7.8	340	4
971	390	17.0	- 1.6			972	380	15.3	2.8		
950	570			303	11	950	570			298	7
902	1000	9.0	0.0			900	1010			289	10
900	1017			297	12	852	1480	6.1	- 1.7		
850	1488	6.4	- 0.8	285	9	850	1482	5.9	- 2.0	284	9
800	1981			276	10	800	1976			286	11
791	2050	2.3	- 2.1			777	2200	0.9	- 7.6		
752	2470	- 1.7	- 7.6			750	2490			284	12
750	2490			286	11	716	2860	- 4.8	- 8.9		
726	2750	- 1.2	-20.2			700	3039	- 6.0	-10.1	280	12
700	3050	- 2.8	MB	300	13						

Table 9 (continued). RAWINSONDE MEASUREMENTS

4 June 1964				Experiment No. 21				Tracer Release from 1030 to 1130 CST				6 June 1964				Experiment No. 22				Tracer Release from 1130 to 1230 CST			
Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST				Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
987	238	13.9	7.6	170	5	993	200	10.6	7.2	190	3	984	238	16.8	16.1	070	1	991	200	14.4	14.4	090	3
966	430	18.5	6.4			974	360	16.9	3.5			950	530			205	2	962	460	13.4	11.7		
950	560			187	12	954	530	17.1	4.0			900	996			263	3	950	560			147	4
900	1025			204	6	950	580			262	12	850	1478	11.6	9.7	250	12	934	710	14.4	12.8		
869	1320	13.5	- 0.2			900	1032			280	14	800	1984			243	15	900	1015			194	6
850	1507	12.0	- 0.5	170	6	850	1511	9.8	2.9	290	11	796	2000	9.1	7.0			850	1494	10.1	8.5	215	6
800	2011			143	5	800	2011			286	5	750	2500			232	14	800	1997			227	6
750	2540			112	5	797	2060	5.8	1.6			717	2880	1.9	- 1.2			750	2520	4.6	3.1	236	10
736	2700	2.5	- 3.0			753	2510	1.6	- 7.2			707	3040	3.5	- 4.0			700	3087	0.8	- 0.6		
700	3096	0.2	- 8.8	267	1	750	2540			285	4	700	3072	3.3	0.7	238	14						12
						714	2970	- 1.9	- 9.3														
						700	3087	- 2.8	-11.8	332	6												
Station: Columbia, Mo. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Columbia, Mo. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
987	238	13.6	12.2	110	4	993	200	23.3	10.6	230	4	982	238	25.6	17.2	270	4	988	200	23.3	18.3	240	3
950	560			124	11	974	350	22.5	7.1			963	390	21.0	14.0			950	540			240	5
914	870	8.8	6.3			950	580			238	7	950	500			246	6	900	1009			249	9
900	1009			122	16	900	1047			250	4	900	992			224	8	850	1496	14.1	9.8	241	12
850	1481	6.7	5.5	116	15	850	1531	12.0	5.4	285	3	850	1477	13.0	10.2	210	9	800	2006			233	16
831	1660	6.0	5.3			820	1820	9.2	4.2			841	1550	12.2	10.0			750	2550	6.7	2.8	227	18
800	1978			160	12	800	2035			295	3	800	1985			211	10	706	3050	3.5	- 2.7		
784	2140	6.4	6.1			750	2540			205	1	772	2260	8.3	2.9			700	3108	3.6	- 5.1		
750	2500			234	11	749	2570	3.4	- 3.8			750	2500			238	8						17
700	3068	1.9	1.6	255	12	700	3119	- 0.1	- 3.5	012	3	748	2520	9.2	-13.9								
												700	3088	6.0	MB	289	8						

Table 9 (continued). RAWINSONDE MEASUREMENTS

7 June 1964		Experiment No. 23				Tracer Release from 1132 to 1232 CST				9 June 1964		Experiment No. 24				Tracer Release from 1030 to 1130 CST			
Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST				Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST							
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)		
981	238	17.2	16.1	140	3	988	200	15.0	15.0		CaIm	975	238	21.2	16.8	180	6		
954	490	20.9	17.9			976	300	19.0	13.0			952	440	22.3	17.6				
950	520			190	5	950	530			234		950	470			202	13		
926	730	19.4	13.4			920	800	16.3	5.2			900	934			233	29		
900	980			237	6	900	996			252	7	894	1000	18.9	15.4				
870	1270	15.4	11.3			850	1477	11.4	3.6	238	9	867	1260	20.9	15.9				
854	1420	16.5	0.6			846	1510	11.1	3.6			850	1429	21.5	13.4	247	33		
850	1467	16.6	3.0	260	5	814	1830	12.0	-10.2			830	1630	22.3	10.1				
847	1500	16.8	4.5			800	1985			282	7	804	1900	21.0	8.3				
800	1981			290	3	750	2500			292	9	800	1956			242	27		
779	2200	12.7	2.0	282	7	724	2800	6.2	- 8.9			772	2240	18.4	- 2.0				
750	2500					700	3085	4.6	-12.0	289	10	760	2380	17.3	3.2				
723	2810	7.1	2.7	288	8							750	2500			232	23		
700	3093	5.2	1.9									748	2510	16.5	- 4.1				
												700	3093	12.1	- 0.7	222	18		
Station: Columbia, Mo. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Columbia, Mo. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST							
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)		
979	238	23.1	18.5	150	4	985	200	26.7	19.4	280	3	978	238	30.6	20.5	260	6		
950	500			156	9	964	380	24.0	16.1			955	430	26.6	17.9				
928	700	19.8	14.1			950	510			255	3	950	480			242	9		
903	940	19.0	9.2			900	988			245	3	900	972			239	12		
900	968			173	11	890	1080	17.0	13.1			874	1230	20.6	15.9				
850	1456	15.9	8.8	198	8	870	1270	17.3	6.9			850	1467	18.9	13.5	251	13		
842	1530	15.4	8.8			850	1476	16.0	5.3	245	4	805	1920	15.2	9.3				
814	1810	14.1	5.5			800	1990			243	9	800	1984			270	16		
800	1970			249	7	792	2060	12.5	1.2			761	2400	13.3	-11.3				
794	2020	15.5	4.9			750	2520			239	10	750	2520			270	24		
750	2500			291	8	700	3098	5.5	- 0.4	251	10	723	2820	14.0	-10.7				
737	2640	12.5	0.3									700	3106	11.9	-12.4	251	26		
700	3091	8.6	1.5	292	15							706	3010	11.6	MB				
												700	3090	11.1	MB	266	37		

Table 9 (continued). RAWINSONDE MEASUREMENTS

10 June 1964				Experiment No. 25				Tracer Release from 1033 to 1133 CST				11 June 1964				Experiment No. 26				Tracer Release from 1035 to 1135 CST			
Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST				Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
986	238	16.6	12.7	360	4	991	200	15.0	12.8	295	2	990	238	18.0	15.3	030	4	998	200	12.8	7.2	090	4
955	510	14.6	11.2			950	560			338	8	950	600					976	380	11.6	5.0		
950	560			346	7	928	750	11.6	8.6			942	670	14.9	12.4			964	480	13.3	7.9		
913	900	17.9	10.0			917	850	15.2	13.0			906	1000	16.5	13.6			950	600			114	7
900	1016			310	9	900	1012			332	10	900	1050					946	640	14.4	3.3		
874	1270	19.0	8.4			871	1300	15.6	6.2			850	1537					900	1072			063	2
850	1507	18.7	2.5	273	15	850	1497	14.7	4.3	314	12	813	1910	15.4	13.3			895	1120	16.3	11.8		
827	1740	18.3	- 4.5			826	1730	13.1	0.5			800	2053					850	1559	17.3	- 3.5	272	3
800	2025			267	16	800	2006			305	12	751	2590	12.6	7.3			842	1630	17.6	- 8.6		
774	2300	13.5	3.9			785	2180	9.9	- 0.9			750	2595					800	2075			338	3
758	2480	12.4	- 3.0	282	17	750	2540			303	17	700	3176	8.0	2.6	237	8	775	2330	12.9	1.2		
750	2560					740	2670	12.0	- 7.0									750	2610	8.6	- 8.5	325	9
733	2770	10.2	5.0			700	3118	9.8	-12.1	287	21							700	3192			279	11
710	3030	10.2	-13.1																				
700	3146	10.2	MB	301	15																		
Station: Columbia, Mo. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Columbia, Mo. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
988	238	26.6	16.4	090	4	994	200	25.6	15.0	020	5	983	238	28.8	21.6	170	3	991	200	27.8	15.6	140	5
971	400	22.8	13.3			974	390	23.6	11.9			950	540			160	8	952	550	25.2	11.6		
950	590			076	5	950	600			039	5	900	1014			187	9	950	580			147	8
907	990	18.5	12.4			900	1058			009	5	850	1509	18.4	15.5	215	10	900	1043			155	9
900	1050			014	2	852	1520	12.8	8.9			800	2026			216	14	855	1490	16.6	9.7		
881	1240	22.5	- 5.4			850	1544	12.9	8.4	330	5	750	2560			223	13	850	1534	16.3	8.2	165	9
850	1544	21.4	- 5.5	322	6	840	1610	13.5	6.9			745	2710	11.2	2.0			829	1740	15.4	1.5		
800	2067			334	5	826	1800	16.4	- 9.5			706	3060	8.5	2.9			817	1880	18.2	- 3.9		
787	2210	18.6	- 6.2			800	2057			301	9	700	3144	8.1	1.3	217	18	800	2051			205	10
750	2610			354	4	780	2270	16.2	MB									750	2600			204	10
700	3198	11.1	-12.3	319	2	752	2560	14.6	-11.0									708	3070	8.8	- 2.5		
						750	2600			303	12							700	3170	8.0	- 3.9	198	12
						700	3183	10.9	-10.0	299	11												

Table 9 (continued).

10 October 1964				Experiment No. 27				Tracer Release from 1130 to 1230 CST				11 October 1964				Experiment No. 28				Tracer Release from 1105 to 1205 CST			
Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST				Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST							
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)						
999	238	-1.0	-3.3	040	3	1005	200	-3.3	-5.6	005	2	996	238	3.9	-2.9	130	3						
978	400	4.5	-5.0			1000	240	-2.0	-4.8	010	2	965	490	7.4	-3.2								
950	640			080	4	984	370	1.8	-3.5			950	620			177	11						
900	1081			010	3	950	640			060	1	900	1071			202	7						
895	1130	0.0	-12.3			940	740	-1.0	-9.6			850	1541	7.4	-14.8	178	3						
875	1300	0.8	-19.1			900	1081			007	4	818	1850	7.0	-15.1								
850	1539	1.1	MB	338	6	868	1380	-5.0	-12.0			800	2034			210	2						
800	2026			336	7	850	1533	-2.8	-14.8	351	9	768	2360	4.1	-2.4								
750	2540			334	8	834	1690	-0.4	-20.2			750	2560			258	3						
735	2700	2.8	MB			800	2017			351	9	720	2890	4.8	-5.5								
712	2970	1.0	-18.9			750	2520			343	11	700	3129	4.2	-9.9	274	3						
700	3103	0.5	-19.3	330	10	714	2920	0.2	MB			700	3124	1.6	MB								
						703	3050	-0.8	-20.5							285	4						
						700	3086	-1.0	-20.1	336	14												

Station: Columbia, Mo. Ascension Start: 1800 CST						Station: Peoria, Ill. Ascension Start: 1800 CST						Station: Columbia, Mo. Ascension Start: 1800 CST						Station: Peoria, Ill. Ascension Start: 1800 CST					
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
996	238	12.9	- 4.3	130	3	1004	200	8.3	- 4.4	040	2	991	238	16.1	- 0.6	160	3	998	200	12.2	- 2.8	130	3
950	630			126	6	1000	229	8.4	- 4.8	047	3	950	580			123	5	987	300	12.5	- 3.7		
900	1074			131	6	992	300	8.6	- 5.7			900	1044			153	7	950	610				
867	1370	3.1	-10.2			950	640			099	6	860	1420	5.7	- 8.3			900	1058			160	4
850	1539	5.3	-16.5	135	3	900	1090			133	5	850	1514	6.2	1.5	208	11	856	1470	2.1	- 9.0	173	5
804	1970	7.0	MB			878	1290	0.0	-10.0			800	2011			217	17	850	1523	2.6	-11.0	205	8
800	2036			318	3	860	1460	3.6	-17.3			783	2180	5.8	4.4			837	1630	3.6	-17.3		
750	2560			316	3	850	1550	3.7	MB	276	2	750	2530					800	2016			213	9
700	3124	3.4	MB	284	5	806	1990	4.4	MB			700	3099	1.5	0.9	240	17	790	2130	5.1	MB		
						800	2043			314	3							751	2540	4.0	-17.0		
						770	2360	5.5	-16.3									750	2550			213	12
						750	2580			317	6							730	2770	2.8	- 3.7		
						700	3130	2.3	-17.8	308	9							706	3050	3.1	- 7.7		
																		700	3102	2.8	- 6.8	215	12

Table 9 (continued). RAWINSONDE MEASUREMENTS

12 October 1964				Experiment No. 29				Tracer Release from 2000 to 2100 CST				16 October 1964				Experiment No. 30				Tracer Release from 2000 to 2100 CST			
Station: Columbia, Mo. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Columbia, Mo. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST			
P(mb)	Z(m)	T(°C)	T _D (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _D (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _D (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _D (°C)	D(deg)	S(m/s)
992	238	16.2	7.9	190	4	996	200	15.0	4.4	240	2	982	238	23.8	4.7	180	3	987	200	20.0	7.2	175	3
950	600			210	3	979	350	15.2	2.7			950	520			187	8	976	300	22.5	5.4		
900	1052			296	4	950	600			266	4	900	987			220	6	950	530			199	4
850	1522	4.4	2.3	293	3	900	1049			246	3	850	1471	12.3	1.0	248	6	900	988			217	4
834	1670	6.3	3.5			860	1440	6.4	1.5			822	1740	12.3	-11.4			862	1340	12.5	1.5		
800	2019			256	2	850	1521	6.5	1.4	216	3	800	1977			264	7	850	1470	13.1	-4.2	259	6
750	2530			268	3	810	1930	6.6	1.0			768	2310	9.1	MB			841	1560	13.6	-10.3		
700	3096	-1.6	-7.9	250	1	800	2019			255	7	750	2500			275	4	800	1977			267	4
						750	2550			266	9	719	2850	9.4	MB			750	2500			307	7
						739	2680	1.8	-5.2			700	3083	7.9	MB	271	4	700	3079	5.4	MB	323	5
						704	3070	0.0	-12.0	262	8												
						700	3102	-0.3	-12.0														
Station: Columbia, Mo. Ascension Start: 0600 CST (13 October)				Station: Peoria, Ill. Ascension Start: 0600 CST (13 October)				Station: Columbia, Mo. Ascension Start: 0600 CST (17 October)				Station: Peoria, Ill. Ascension Start: 0600 CST (17 October)				Station: Peoria, Ill. Ascension Start: 0600 CST (17 October)							
P(mb)	Z(m)	T(°C)	T _D (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _D (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _D (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _D (°C)	D(deg)	S(m/s)
993	238	7.9	6.7	360	1	998	200	4.4	2.2	200	2	982	238	12.3	7.9	160	4	988	200	8.3	3.9	200	2
980	340	10.9	8.8			984	310	12.4	3.4			967	360	20.4	12.9			978	290	17.0	6.5		
950	600			230	2	950	610			347	3	950	510			222	9	967	380	19.9	5.9		
943	660	11.2	7.5			942	690	10.4	0.2			938	600	19.5	9.9			950	530	19.4	3.5	233	7
900	1052			212	2	900	1061			323	2	900	984			224	7	900	992			263	7
886	1180	7.5	4.0			884	1210	6.6	0.4			864	1320	13.8	6.7			850	1476	12.5	0.0	264	4
874	1290	8.6	5.1			872	1320	7.1	1.3			850	1468	13.6	4.2	204	7	837	1600	11.5	-0.3		
850	1524	7.1	3.7	218	3	850	1531	6.3	0.2	312	5	826	1700	13.4	-2.1			817	1800	11.8	-11.8		
800	2020			226	1	800	2028			271	5	800	1977			187	9	800	1983			190	1
750	2540			010	1	791	2110	4.4	-2.2			750	2500			193	8	768	2310	10.7	MB		
727	2780	-0.9	-3.6			757	2480	3.2	-8.5			745	2550	8.2	-14.8			750	2510			042	3
706	3030	-0.4	-4.9			750	2560			257	7	700	3081	6.8	MB	141	5	700	3090	5.9	MB	015	4
700	3093	-0.7	-5.5	182	5	700	3109	0.0	-12.7	264	6												

Table 9 (continued). RAWINSONDE MEASUREMENTS

17 October 1964		Experiment No. 31				Tracer Release from 1315 to 1415 CST				19 October 1964				Experiment No. 32				Tracer Release from 1945 to 2045 CST					
Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST				Station: Columbia, Mo. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST							
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
982	238	12.3	7.9	160	4	988	200	8.3	3.9	200	2	993	238	10.3	- 1.8	350	4	997	200	7.2	- 3.9	300	4
967	360	20.4	12.9			978	290	17.0	6.5			950	600			348	9	950	600			316	7
950	510			222	9	967	380	19.9	5.9			900	1046			317	13	900	1032			303	6
938	600	19.5	9.9			950	530	19.4	4.0	233	7	850	1506	- 1.1	- 7.0	320	17	850	1486	- 4.8	- 7.9	292	5
900	984			224	7	900	992			263	7	800	1986			319	18	829	1690	- 6.6	- 9.0		
864	1320	13.8	6.7			850	1476	12.5	0.0	264	4	765	2320	- 8.9	-12.1			800	1959			285	8
850	1468	13.6	4.2	204	7	837	1600	11.5	- 0.3			750	2480			306	22	750	2450			297	9
826	1700	13.4	- 2.1			817	1800	11.8	-11.8			726	2740	-11.5	-16.6			700	2981	-16.0	-18.1	305	9
800	1977			187	9	800	1983			190	1	700	3017	-13.8	-18.8	293	19						
750	2500			193	8	768	2310	10.7	MB														
745	2550	8.2	-14.8			750	2510			042	3												
700	3081	6.8	MB	141	5	700	3090	5.9	MB	015	4												
Station: Columbia, Mo. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Columbia, Mo. Ascension Start: 0600 CST (20 October)				Station: Peoria, Ill. Ascension Start: 0600 CST (20 October)											
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
979	238	27.9	10.5	340	2	986	200	22.2	6.7	190	2	995	238	- 0.7	- 3.7	270	3	998	200	- 1.7	- 5.6	300	2
950	500			354	3	974	310	24.4	3.7			975	390	1.7	- 3.8			979	360	2.0	- 7.1		
900	975			340	2	950	530			210	3	950	610			300	5	950	600			299	7
850	1468	17.1	8.8	260	3	900	990			226	4	945	650	1.0	- 7.7			900	1027			279	10
800	1983			226	7	850	1476	14.1	0.3	232	6	900	1050			309	8	850	1478	- 6.5	-11.4	270	10
799	1990	12.5	6.8			800	1983			260	6	872	1300	- 2.8	-10.2			827	1690	- 8.1	-12.4		
766	2440	12.1	4.1			786	2140	8.2	- 2.2			852	1490	- 1.4	-18.5			800	1951			279	12
750	2510			255	11	750	2520			290	7	850	1505	- 1.4	-18.9	320	13	791	2040	- 6.3	-20.3		
725	2800	10.0	-13.2			726	2800	6.3	-15.6			803	1950	- 1.4	-20.4			750	2460			299	14
700	3098	7.4	-13.0	269	11	700	3081	4.6	MB	282	9	800	1988			316	15	731	2660	- 6.2	-24.0		
												750	2490			316	16	700	2995	- 7.8	MB	316	15
												700	3044	- 5.2	MB	327	18						

Table 9 (continued). RAWINSONDE MEASUREMENTS

Tracer Release from 1915 to 2015 CST										Tracer Release from 1920 to 2020 CST													
20 October 1964					21 October 1964					Experiment No. 34					Experiment No. 34								
Station: Columbia, Mo. Ascension Start: 1800 CST					Station: Peoria, Ill. Ascension Start: 1800 CST					Station: Columbia, Mo. Ascension Start: 1800 CST					Station: Peoria, Ill. Ascension Start: 1800 CST								
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
986	238	16.8	- 6.3	240	5	990	200	8.9	- 5.0	220	4	987	238	18.7	- 6.1	340	6	993	200	10.0	- 2.2	320	4
950	540			234	14	974	340	9.5	- 5.6			950	560			337	8	978	330	10.4	- 3.0		
900	1004			251	16	950	530			205	11	900	1020			329	9	950	580			337	9
876	1220	8.8	- 7.0			900	982			230	17	850	1494	7.4	- 6.8	313	9	900	1008			338	9
850	1477	8.4	- 6.2	284	20	866	1300	2.4	- 8.0			800	1990			314	10	850	1471	0.	- 7.1	336	8
800	1978			116	23	850	1445	3.1	- 6.3	259	19	798	2000	3.7	-17.2			800	1957			333	11
780	2200	7.2	- 5.2			801	1930	5.5	- 1.2			768	2310	5.3	- 7.7			787	2100	0.6	-19.3		
750	2500			329	23	800	1938			301	19	750	2510			309	15	750	2490			326	14
744	2580	5.3	- 8.9			750	2470			304	19	700	3074	0.7	- 9.6	309	21	700	3020	- 4.2	MB	320	14
700	3069	1.6	-13.3	340	25	713	2880	- 2.5	- 6.0														
						700	3013	- 3.0	- 6.1	305	18												

Tracer Release from 1915 to 2015 CST										Tracer Release from 1920 to 2020 CST													
20 October 1964					21 October 1964					Experiment No. 33					Experiment No. 33								
Station: Columbia, Mo. Ascension Start: 0600 CST (21 October)					Station: Peoria, Ill. Ascension Start: 0600 CST (21 October)					Station: Columbia, Mo. Ascension Start: 0600 CST (22 October)					Station: Peoria, Ill. Ascension Start: 0600 CST (22 October)								
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
983	238	12.8	- 1.2	280	4	983	200	8.3	1.1	260	3	995	238	1.4	- 2.8	080	3	1001	200	- 0.6	- 3.3	350	2
968	360	13.4	- 1.0			971	310	12.9	2.4			980	360	8.1	1.0			1000	204	- 0.5	- 3.2	350	2
950	510			289	12	950	490			301	13	950	610			082	4	980	370	4.2	- 0.3		
944	560	17.4	- 0.3			946	520	15.2	0.6			911	970	4.9	- 3.2			950	630			015	5
900	982			322	13	900	938			317	16	900	1060			070	4	900	1056			340	6
870	1250	14.8	- 4.0			850	1412	7.7	- 2.2	315	19	870	1330	6.0	-15.9			876	1290	- 0.5	- 4.6		
850	1465	13.5	- 5.1	316	16	800	1909			306	20	856	1480	7.1	MB			858	1470	2.8	-12.6		
800	1971			297	16	789	2020	2.7	- 4.4			850	1527	7.1	MB	334	9	850	1516	2.6	-13.2	326	10
750	2500			297	22	758	2340	2.8	-17.9			801	2010	8.0	-14.9			800	2004			325	12
700	3066	3.0	-15.7	302	25	750	2420			296	27	800	2025			333	14	789	2110	0.8	-19.6		
						700	2987	- 0.1	-14.1	295	31	761	2440	5.7	- 9.7			750	2520			315	11
												750	2550			332	16	718	2880	- 2.6	MB		
												700	3113	0.5	-13.2	337	15	700	3070	- 3.4	MB	312	15

Table 9 (continued). RAWINSONDE MEASUREMENTS

6 March 1965				7 March 1965				Tracer Release from 1230 to 1330 CST			
Experiment No. 35				Experiment No. 36				Station: Peoria, Ill. Ascension Start: 0600 CST			
Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
981	238	-0.6	-2.0	320	8	982	200	-1.1	-3.3	350	6
950	500			322	14	958	400	-1.8	-6.2		
931	660	-4.3	-5.5			950	470			358	12
902	900	-5.0	-6.0			918	730	-2.8	-5.1		
900	922			328	13	900	892			009	13
891	1000	-1.8	-2.7			896	930	-0.2	-3.2		
850	1377	-1.8	-3.9	354	11	860	1270	0.5	-5.5		
834	1530	-1.8	-4.6			850	1350	0.1	-6.8	002	15
810	1760	-3.2	-11.7			800	1835	-1.7	-14.2	008	14
800	1859			002	11	764	2190	-3.8	-13.8		
788	1980	-2.0	-6.5			750	2340			010	15
750	2370			344	12	734	2500	-4.8	-22.8		
720	2700	-4.6	-9.6			702	2850	-5.8	-23.7		
700	2915	-6.0	-11.0	348	12	700	2888	-5.9	MB	013	14
Station: Columbia, Mo. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Columbia, Mo. Ascension Start: 1800 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
985	238	0.7	-4.0	340	7	987	200	0.0	-2.8	360	6
950	530			328	7	950	510			358	7
900	953			324	8	900	933			011	7
850	1399	-8.5	-11.7	327	10	881	1110	-6.5	-8.0		
830	1590	-10.0	-11.7			866	1230	-3.9	-5.6		
805	1830	-6.8	-10.0			850	1393	-4.3	-6.5	024	4
800	1870			328	8	805	1850			348	3
783	2040	-6.9	-17.4			767	2150	-6.8	-13.2		
750	2370			317	6	750	2350			340	4
739	2480	-8.2	-21.2			730	2580	-8.9	-14.0		
700	2907	-10.0	-19.4	300	7	708	2800	-7.7	-12.8		
						700	2901	-8.1	-12.8	348	5

Table 9 (continued). RAWINSONDE MEASUREMENTS

8 March 1965										11 March 1965										Tracer Release from 2030 to 2130 CST									
Experiment No. 37										Experiment No. 38										Tracer Release from 2030 to 2130 CST									
Station: Columbia, Mo. Ascension Start: 1800 CST										Station: Columbia, Mo. Ascension Start: 1800 CST										Station: Peoria, Ill. Ascension Start: 1800 CST									
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
										NO SOUNDING TAKEN																			
983	238	3.3	- 1.1	300	7	988	238	8.0	- 3.5	300	5	993	200	0.0	- 0.6	220	4												
950	500			302	9	950	550			300	5	977	320	- 1.1	- 5.1														
914	810	- 0.8	- 9.2			900	996			297	7	950	550			256	10												
900	947			304	14	879	1180	- 1.9	- 7.9			937	660	- 2.4	- 6.1														
850	1399	- 6.1	-10.7	301	18	850	1451	- 2.8	- 6.9	272	12	900	977			265	11												
802	1850	-10.7	-13.3			803	1910	- 4.3	- 6.3			895	1010	- 5.2	- 7.8														
800	1871			300	15	800	1931			258	17	877	1190	- 4.9	- 7.6														
782	2030	- 9.7	-14.2			750	2450			272	20	850	1426	- 6.3	-10.9	280	12												
750	2350			293	17	700	2971	-10.8	-13.1	209	22	800	1898			278	14												
747	2390	-11.5	-21.6									793	2000	- 9.4	-19.2														
700	2896	-13.0	-23.5	290	17	750	2400			286	17																		

^a0600 sounding not taken; this sounding is a special sounding taken primarily to measure the winds aloft.

Table 9 (continued). RAWINSONDE MEASUREMENTS

13 March 1965				14 March 1965				Tracer Release from 1100 to 1200 CST			
Experiment No. 39				Experiment No. 40				Station: Peoria, Ill. Ascension Start: 0600 CST			
Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Columbia, Mo. Ascension Start: 0600 CST				Station: Peoria, Ill. Ascension Start: 0600 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
993	238	-3.9	-5.0	040	2	998	200	-6.7	-7.8	310	2
974	380	-2.2	-5.6			986	300	-2.6	-6.7		
950	580			160	2	950	590			271	2
913	880	-4.2	-6.6			912	900	-6.3	-10.3		
900	1014			278	2	900	1012			314	14
888	1100	-3.5	-14.3			886	1120	-4.0	-18.7		
850	1466	-4.9	-19.1	348	2	850	1462	-5.5	-20.3	335	7
821	1720	-6.0	-23.8			800	1936			332	8
800	1941	-5.6	MB	324	5	751	2410	-10.3	-26.6		
750	2430			323	7	750	2420			318	9
737	2570	-9.3	-26.2			712	2820	-12.2	-16.7		
715	2800	-10.3	-20.0			700	2965	-13.1	-17.7	308	9
700	2977	-11.1	-22.6	284	8						

Station: Columbia, Mo. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Columbia, Mo. Ascension Start: 1800 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
989	238	9.6	-2.7	220	3	993	200	3.9	-3.3	240	4
970	390	7.0	-7.5			980	300	3.5	-6.5		
950	560			220	3	950	550			232	6
906	960	1.9	-9.4			918	830	-0.5	-9.2		
900	1005			232	5	900	988	-1.0	-16.4	242	8
890	1100	1.9	-15.2			876	1200	-1.9	-7.7		
850	1464	-0.8	-15.1	255	5	850	1442	-3.6	-8.5	264	8
800	1946			255	5	807	1850	-6.3	-9.3		
750	2440			266	7	800	1918			270	9
700	2985	-11.5	-17.9	268	11	750	2410			286	11
						700	2948	-13.1	-17.0	289	11

Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST				Station: Peoria, Ill. Ascension Start: 1800 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
992	200	1.1	-2.8	290	9	992	200	1.1	-2.8	290	9
982	290	0.7	-6.1			982	290	0.7	-6.1		
950	550			298	8	950	550			298	8
913	860	-4.6	-7.8			913	860	-4.6	-7.8		
900	968			312	8	900	968			312	8
889	1060	-4.6	-12.9			889	1060	-4.6	-12.9		
850	1415	-7.5	-17.9	316	10	850	1415	-7.5	-17.9	316	10
846	1460	-7.6	-17.7			846	1460	-7.6	-17.7		
804	1840	-7.6	-22.2			804	1840	-7.6	-22.2		
800	1887			319	9	800	1887			319	9
750	2390	-9.3	-26.3			750	2390	-9.3	-26.3		
748	2400	-11.0	MB			748	2400	-11.0	MB		
700	2919			308	14	700	2919			308	14

Table 9 (continued). RAWINSONDE MEASUREMENTS

15 March 1965										16 March 1965										Tracer Release from 2030 to 2130 CST									
Experiment No. 41										Experiment No. 42																			
Station: Columbia, Mo. Ascension Start: 1800 CST										Station: Columbia, Mo. Ascension Start: 1800 CST										Station: Peoria, Ill. Ascension Start: 1800 CST									
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	U(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
989	238	11.4	-3.2	300	5	993	200	5.6	-2.2	250	8	978	238	17.8	4.7	130	5	991	200	6.7	1.7	060	8	991	200	6.7	1.7	060	8
972	380	9.0	-4.5			950	560		285	14		950	480			124	9	950	530			100	14	950	530			100	14
950	560			297	4	900	992		286	16		900	982			146	16	912	870	1.8	-2.7			912	870	1.8	-2.7		
901	1000	3.1	-5.6			878	1180	-3.3	-12.6			884	1090	11.0	0.1			900	977			131	13	900	977			131	13
900	1016			285	5	850	1446	-3.3	-17.0	294	23	850	1470	8.0	-0.5	148	16	854	1410	3.7	-7.7			854	1410	3.7	-7.7		
853	1440	2.1	-18.6			843	1500	-3.3	-18.5			800	1913			157	14	850	1450	3.6	-7.5	178	11	850	1450	3.6	-7.5	178	11
850	1479	1.8	MB	295	9	800	1924		296		27	769	2220	0.4	-3.2			800	1939			186	11	800	1939			186	11
800	1964			292	11	781	2100	-6.2	-21.8			750	2420			182	13	764	2290	-3.4	-12.1			764	2290	-3.4	-12.1		
788	2070	-2.9	MB			750	2420		291		28	726	2690	-1.5	-8.3			750	2430			212	8	750	2430			212	8
760	2360	-5.5	-23.4			706	2890	-12.4	-28.4			700	2983	-3.2	-14.9	208	11	714	2820	-5.9	-21.9			714	2820	-5.9	-21.9		
750	2460			270	16	700	2957	-12.8	MB	293	29							700	2993	-6.8	-22.8	220	8						
710	2790	-9.9	-23.5																										
700	3008	-10.4	-21.8	284	18																								

Station: Columbia, Mo. Ascension Start: 0600 CST (16 March)										Station: Peoria, Ill. Ascension Start: 0600 CST (16 March)										Station: Columbia, Mo. Ascension Start: 0600 CST (17 March)									
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
988	238	3.9	-2.3	140	5	995	200	-3.9	-5.0	025	2	962	238	10.7	8.6	170	5	971	200	5.6	3.9	100	9	971	200	5.6	3.9	100	9
966	420	8.5	-1.6			982	310	0.8	-5.9			950	340			179	9	950	390			133	15	950	390			133	15
950	560			179	9	950	580		305		4	912	670	13.5	11.2			931	550	4.4	1.2			931	550	4.4	1.2		
934	700	8.9	-5.8			942	640	3.3	-6.7			900	795			210	24	900	822			172	18	900	822			172	18
900	1006			230	8	900	1006	0.8	-16.5			850	1273	9.3	3.9	229	26	870	1100	6.0	3.9			870	1100	6.0	3.9		
888	1110	7.2	-4.0			882	1180	0.8	-16.5			800	1773			233	17	850	1290	4.9	2.8	164	18	850	1290	4.9	2.8	164	18
850	1475	4.4	-7.7	254	9	850	1465	-0.9	-12.5	275	13	750	2300			226	15	800	1784			222	20	800	1784			222	20
825	1710	2.3	-10.3			800	1947			286	19	742	2380	1.2	-13.0			750	2300			232	16	750	2300			232	16
800	1965			272	8	799	1950	-3.6	-8.5		25	700	2850	-1.9	-13.7	224	16	700	2851	-4.3	-6.1	229	17	700	2851	-4.3	-6.1	229	17
750	2490			298	9	750	2450			288																			
708	2940	-8.7	-14.7			701	2970	-12.1	-15.5																				
700	3016	-9.1	-16.1	302	1	700	2985	-14.0	-15.7	289	24																		

Table 9 (continued). RAWINSONDE MEASUREMENTS

17 March 1965		Experiment No. 43				Tracer Release from 2000 to 2100 CST					
Station: Columbia, Mo. Ascension Start: 1800 CST						Station: Peoria, Ill. Ascension Start: 1800 CST					
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
979	238	- 1.0	- 5.4	300	13	975	200	1.1	- 2.2	260	10
967	320	- 2.4	- 8.5			950	400	- 0.6	- 5.2	265	16
950	470			296	13	900	834			274	24
900	903			285	13	850	1282	- 7.3	- 9.1	275	22
850	1346	-10.8	-12.6	290	21	820	1500	- 9.4	-10.6		
844	1400	-11.2	-12.8			812	1630	- 6.0	- 7.6		
800	1812			284	25	800	1755			267	23
790	1910	-10.5	-13.0			777	1980	- 5.9	- 7.9		
750	2320			271	31	753	2220	- 7.2	-17.7		
742	2400	- 5.6	-22.5			750	2260			261	30
709	2750	- 6.2	-23.9			722	2550	- 6.7	-24.4		
700	2854	- 7.2	-23.9	269	33	706	2730	- 4.8	-22.8		
						700	2800	- 5.2	-21.7	252	32

Station: Columbia, Mo. Ascension Start: 0600 CST (18 March)						Station: Peoria, Ill. Ascension Start: 0600 CST (18 March)					
P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)	P(mb)	Z(m)	T(°C)	T _d (°C)	D(deg)	S(m/s)
992	238	- 8.9	-13.8	300	8	990	200	- 9.4	-13.9	270	12
950	560			303	13	975	320	-10.2	-17.3		
900	978			306	15	950	520			274	19
884	1110	-17.2	-20.7			900	928			278	21
869	1250	-14.0	-18.1			882	1090	-18.5	-22.3		
850	1410	-13.6	-19.8	307	17	850	1358	-12.8	-17.0	282	22
800	1872			292	22	842	1430	-11.4	-15.8		
787	2010	-12.3	-28.8			800	1821			281	21
764	2220	-10.8	MB			750	2320			276	23
750	2360			281	24	745	2800	-17.3	-26.9		
700	2893	-14.2	MB	282	26	704	2800	-18.6	-33.4		
						700	2823	-18.5	MB	269	26

FREE AND TETHERED RADIOSONDE MEASUREMENTS

Available data[†] from free and tethered ascents made from the roof of the Federal Building are presented in Tables 10 through 12. For the evening experiments in which tethered radiosondes were to be substituted for free radiosondes, ascents were not attempted when winds in the lower 1000 feet (length of the tether) were forecast to exceed 25 mph. For free radiosonde launches, the pressure, height above MSL, temperature, and dew point of each mandatory and significant level up to 700 mb are listed in Table 10.

For the tethered radiosonde ascents, the time in CST, height above the surface, and temperature for each reported level are given in Table 11. Normally during launches the radiosonde was first ascended to maximum tether, then the tether was reeled in 100 feet at a time. At each level, the time and temperature were recorded and the angle between the base of the tether line and radiosonde was measured with a clinometer. Height above the surface was then calculated as the product of the sine of the clinometer angle and the length of tether between the surface and the radiosonde. The partially compensative errors involved with stretch and curvature of the tether line were ignored.

The techniques used in working up data from the free and tethered radiosonde ascents followed as closely as possible those described in U. S. Weather Bureau (1964 c).

[†]In some instances radiosondes were damaged at launch or in flight, resulting in lost data.

TABLE 10. ST. LOUIS RADIOSONDE MEASUREMENTS

Symbols

P(mb)	:	Pressure in whole millibars
Z(m)	:	Height above MSL to the nearest whole meter for standard levels and to the nearest ten meters for all other levels
T(°C)	:	Temperature to the nearest tenth of a degree Celsius
T _d (°C)	:	Dew point to the nearest tenth of a degree Celsius
MB	:	Motor boating - relative humidity too low to be instrumentally measured
-	:	Missing data

Table 10 (continued). ST. LOUIS RADIOSONDE MEASUREMENTS

Experiment No. 4 19 July 1963 Tracer Release: 1130 to 1230 CST Ascension Start: 0959 CST				Experiment No. 5 22 July 1963 Tracer Release: 1104 to 1204 CST Ascension Start: 1000 CST				Experiment No. 6 23 July 1963 Tracer Release: 1130 to 1230 CST Ascension Start: 1058 CST				Experiment No. 11 16 September 1963 Tracer Release: 1100 to 1200 CST Ascension Start: 1100 CST				Experiment No. 12 17 September 1963 Tracer Release: 2000 to 2030 CST Ascension Start: 2000 CST				Experiment No. 13 18 September 1963 Tracer Release: 2000 to 2100 CST Ascension Start: 2000 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)
991	194	30.4	--	994	194	32.3	19.5	994	194	30.3	--	1004	194	25.0	16.1	1008	194	20.7	11.8	998	194	23.6	6.4
956	500	26.6	17.9	987	260	30.4	18.1	916	--	21.9	--	1000	228	24.4	16.6	1000	258	20.6	8.6	970	440	23.7	6.9
937	670	25.7	17.3	965	450	27.8	15.7	865	--	18.6	--	925	900	16.7	13.3	992	300	20.5	5.3	945	670	22.6	6.7
878	1240	23.1	12.1	954	560	27.6	15.2	850	--	17.6	--	916	990	16.7	14.2	938	810	18.7	5.7	881	1270	17.2	4.6
856	1470	20.6	9.4	935	730	26.6	14.0	818	--	15.7	--	894	1190	16.8	11.2	927	900	20.6	7.6	850	1584	13.5	3.2
850	1520	20.2	7.8	916	910	24.7	13.6	770	--	11.8	--	850	1621	14.0	8.9	871	1430	15.8	5.4	827	1800	11.4	2.5
845	1570	20.6	6.7	910	970	24.7	13.3	700	--	7.4	--	772	2420	9.0	4.6	850	1652	14.1	5.1	750	2631	11.4	MB
809	1940	19.6	3.5	870	1370	23.4	11.0	--	--	--	--	700	3230	5.9	--	802	2160	10.2	4.3	--	--	--	--
782	2230	16.6	-2.4	--	--	--	--	--	--	--	--	--	--	--	--	785	2290	9.6	-2.7	--	--	--	--
700	3171	12.6	--	--	--	--	--	--	--	--	--	--	--	--	--	770	2450	10.3	-15.2	--	--	--	--
Experiment No. 7 25 July 1963 Tracer Release: 1040 to 1140 CST Ascension Start: 1015 CST				Experiment No. 8 26 July 1963 Tracer Release: 1045 to 1145 CST Ascension Start: 0958 CST				Experiment No. 9 12 September 1963 Tracer Release: 1115 to 1215 CST Ascension Start: 1130 CST				Experiment No. 14 1 April 1964 Tracer Release: 1200 to 1300 CST Ascension Start: 1100				Experiment No. 15 6 April 1964 Tracer Release: 2040 to 2140 CST				Experiment No. 16 7 April 1964 Tracer Release: 2048 to 2148 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)
999	194	27.5	14.1	999	194	24.9	11.3	1011	194	30.0	19.3	997	194	9.6	-10.6	985	194	15.1	3.6	997	194	6.7	-5.0
989	280	27.5	14.8	989	270	23.4	17.3	1004	280	28.6	18.0	983	340	7.5	-7.0	981	220	16.0	3.8	950	590	2.6	-5.2
984	320	27.0	15.9	965	510	21.8	17.7	1000	317	28.4	17.9	957	560	5.1	-6.2	934	654	16.8	4.4	946	610	1.6	-6.9
965	490	24.8	15.7	950	620	20.8	17.2	906	1190	23.7	15.4	923	840	4.7	-5.7	--	--	--	--	925	800	0.8	-5.9
950	620	24.5	15.8	930	810	18.4	15.3	857	1680	20.8	8.7	910	960	9.5	-1.3	--	--	--	--	900	1029	-2.0	-8.1
916	900	20.3	11.2	900	1099	17.9	15.1	850	1745	22.6	8.4	897	1070	10.5	1.1	--	--	--	--	850	1481	-6.1	-9.5
867	1400	15.8	11.9	850	1588	14.9	15.9	846	1790	23.5	8.3	864	1400	9.1	2.9	--	--	--	--	831	1650	-7.7	-10.3
850	1597	11.9	11.7	727	2900	8.6	2.2	800	2268	17.3	--	838	1517	8.3	3.5	--	--	--	--	812	1840	-7.6	-10.8
825	1650	14.9	6.7	700	3214	7.8	0.7	--	--	--	--	826	1640	7.4	3.2	--	--	--	--	806	1900	-6.7	-10.9
800	2113	11.0	MB	--	--	--	--	--	--	--	--	809	1930	6.0	3.2	--	--	--	--	764	2310	-6.9	-19.9
700	3221	8.5	MB	--	--	--	--	--	--	--	--	764	2400	2.7	-0.7	--	--	--	--	739	2570	-5.4	-17.9
												709	3000	-0.2	-10.8	--	--	--	--	700	3000	-5.4	-18.2
												700	3097	-1.1	-9.7	--	--	--	--	--	--	--	--

Table 10 (continued). ST. LOUIS RADIOSONDE MEASUREMENTS

Experiment No. 17				Experiment No. 18				Experiment No. 20				Experiment No. 24				Experiment No. 25				Experiment No. 26			
8 April 1964				9 April 1964				3 June 1964				9 June 1964				10 June 1964				11 June 1964			
Tracer Release: 2030 to 2130 CST				Tracer Release: 2045 to 2145 CST				Tracer Release: 1040 to 1140 CST				Tracer Release: 1030 to 1130 CST				Tracer Release: 1033 to 1133 CST				Tracer Release: 1035 to 1135 CST			
Ascension Start: 2030 CST				Ascension Start: 2045 CST				Ascension Start: 1051 CST				Ascension Start: 1051 CST				Ascension Start: 1015 CST				Ascension Start: 1015 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)
1004	194	4.7	--	1000	194	13.0	-9.4	998	194	17.6	0.3	986	194	28.9	18.0	996	194	25.5	11.9	998	194	22.3	11.6
1000	227	4.7	-5.4	990	260	13.9	-9.4	860	1430	5.5	-1.4	885	1150	20.7	14.1	939	690	18.6	9.4	954	580	19.0	11.2
985	330	4.6	-5.5	948	620	11.1	-9.7	850	1533	4.6	-1.3	994	320	7.1	-5.9	916	900	16.8	9.5	928	810	23.7	12.0
936	750	2.8	-6.9	935	740	11.6	-8.9	800	2024	0.0	-4.3	940	780	2.5	-7.1	890	1140	17.0	6.5	903	1050	21.4	15.5
875	1290	-0.8	-10.2	874	1300	7.4	-7.1					864	1400	20.6	-1.8			20.6	-1.8	850	1577	15.5	--
850	1535	-5.1	-13.1	850	1543	4.9	-8.3					850	1552	20.6	-3.8			20.6	-3.8	815	1920	16.7	--
806	1950	-8.5	-14.9	816	1880	3.9	-10.7					810	1970	18.1	0.3			18.1	0.3	750	2640	12.9	--
790	2100	-6.8	--	783	2200	0.2	-13.6					782	2370	14.7	-10.1			14.7	-10.1	700	3212	9.0	--
773	2280	-6.5	--	778	2260	-1.5	-12.5					748	2630	12.9	--			12.9	--				
717	2860	-6.1	--	746	2600	-3.8	-14.1					731	2820	14.1	--			14.1	--				
				718	2900	-6.7	-14.8					700	3196	12.0	--			12.0	--				
				730	3090	-9.3	-16.3																
Experiment No. 21				Experiment No. 22				Experiment No. 23				Experiment No. 27				Experiment No. 28				Experiment No. 31			
4 June 1964				6 June 1964				7 June 1964				10 October 1964				11 October 1964				17 October 1964			
Tracer Release: 1030 to 1130 CST				Tracer Release: 1130 to 1230 CST				Tracer Release: 1132 to 1232 CST				Tracer Release: 1130 to 1230 CST				Tracer Release: 1105 to 1205 CST				Tracer Release: 1315 to 1415 CST			
Ascension Start: 1015 CST				Ascension Start: 1115 CST				Ascension Start: 1115 CST				Ascension Start: 1115 CST				Ascension Start: 1150 CST				Ascension Start: 1352 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)
998	194	21.0	--	993	194	23.4	12.9	991	194	27.2	14.8	1010	194	6.3	-8.8	1006	194	12.7	-6.2	990	194	28.0	12.3
984	300	20.6	5.3	982	280	19.4	10.3	967	370	24.4	14.2	1000	275	6.8	-7.0	1000	244	11.7	-6.8	975	310	25.0	2.4
940	690	16.5	4.6	917	870	13.8	9.7	944	600	22.6	13.6	994	320	7.1	-5.9	981	390	8.4	-7.4	909	920	19.0	3.6
922	850	16.2	-2.3	858	1430	10.5	5.3	924	780	21.9	14.7	940	780	2.5	-7.1	950	650	4.9	-8.9	850	1505	13.7	2.9
850	1529	10.2	-3.8	850	1513	9.9	4.5	912	890	19.2	13.6	888	1240	0.1	--	940	740	3.9	-8.9	804	1970	11.8	2.2
762	2430	2.5	--	846	1560	9.6	4.1	860	1390	14.5	12.5	865	1450	2.7	--	920	920	4.1	-14.7	785	2160	11.7	1.1
745	2620	2.3	--	763	2400	2.6	-0.8	850	1502	14.0	11.3	850	1590	2.9	--	914	980	6.1	--	713	2950	5.7	-10.4
700	3107	-1.0	--	700	3094	0.1	-5.3	824	1750	13.7	-0.7	747	2640	4.4	--	873	1356	5.8	--	700	3118	5.8	--
								812	1880	14.8	1.3	700	3167	2.4	--								
								746	2580	10.1	-0.8												
								700	3127	5.3	-0.3												

Table 10 (continued). ST. LOUIS RADIOSONDE MEASUREMENTS

Experiment No. 35 6 March 1965				Experiment No. 36 7 March 1965				Experiment No. 37 8 March 1965			
Tracer Release: 1230 to 1330 CST				Tracer Release: 1230 to 1330 CST				Tracer Release: 2030 to 2130			
Ascension Start: 1253 CST				Ascension Start: 1221 CST				Ascension Start: 2033 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)
1013	--	-0.2	--	995	194	0.8	-4.1	992	194	--	--
1000	--	0.0	--	983	300	-0.2	-4.2	982	280	3.7	-6.5
967	--	-3.4	--	940	650	-4.0	-6.3	914	850	-2.0	-8.8
940	--	-5.0	--	876	1200	-5.4	-7.2	892	1050	-2.6	-8.2
903	--	-1.3	--	850	1435	-4.5	-6.2	854	1390	-6.2	-14.7
884	--	-1.3	--	750	2412	-9.7	-13.6	850	1433	-6.2	-14.7
872	--	-2.0	--					842	1500	-6.6	-15.3
850	--	-1.0	--					790	2000	-11.5	--
722	--	-5.0	--					758	2300	-10.0	--
								700	2928	-13.8	--

Experiment No. 39 13 March 1965				Experiment No. 40 14 March 1965			
Tracer Release: 1220 to 1320 CST				Tracer Release: 1100 to 1200 CST			
Ascension Start: 1155 CST				Ascension Start: 1059 CST			
P(mb)	Z(m)	T(°C)	T _d (°C)	P(mb)	Z(m)	T(°C)	T _d (°C)
1003	194	4.8	-9.4	996	194	1.2	-5.7
1000	218	4.8	-8.7	964	440	-0.1	-6.9
987	320	2.5	-9.8	936	680	-2.5	-7.2
947	650	-1.2	-9.7	919	830	-2.6	-6.9
916	910	-2.2	-8.8	892	1070	-4.9	-9.7
903	1030	-3.2	-10.8	850	1451	-5.4	-18.5
890	1150	-2.4	-15.6	829	1640	-5.9	-18.0
850	1513	-4.1	MB	784	2084	-7.3	
700	3025	-11.2	-24.3				

TABLE 11. ST. LOUIS TETHERED RADIOSONDE MEASUREMENTS

Symbols

t(CST): Time in CST

Z(ft) : Height above the surface in whole feet

T(C) : Temperature to the nearest tenth of a degree Celsius

Table 11. ST. LOUIS TETHERED RADIOSONDE MEASUREMENTS

Experiment No. 29 12 October 1964 Tracer Release: 2000 to 2100 CST Ascension No. 1			Experiment No. 29 12 October 1964 Tracer Release: 2000 to 2100 CST Ascension No. 2			Experiment No. 30 16 October 1964 Tracer Release: 2000 to 2100 CST Ascension No. 1		
t (CST)	Z (ft)	T (°C)	t (CST)	Z (ft)	T (°C)	t (CST)	Z (ft)	T (°C)
1909	650	15.2	2213	616	14.1	1827	996	23.8
1913	491	15.1	2215	625	14.1	1829	896	23.8
1915	414	15.1	2217	594	14.3	1832	800	23.9
1917	332	15.6	2219	566	14.1	1833	698	24.5
1921	260	15.5	2222	492	14.0	1838	599	24.6
1923	185	15.9	2223	410	13.9	1840	500	25.1
			2226	339	14.0	1842	400	25.2
			2228	257	14.1	1846	297	25.6
			2230	162	14.3	1848	200	25.9
			2232	87	14.3	1850	99	25.9
			2234	sfc	14.3	1853	sfc	26.1

Experiment No. 30 16 October 1964 Tracer Release: 2000 to 2100 CST Ascension No. 2			Experiment No. 32 19 October 1964 Tracer Release: 1945 to 2045 CST Ascension No. 1			Experiment No. 33 20 October 1964 Tracer Release: 1915 to 2015 CST Ascension No. 1		
t (CST)	Z (ft)	T (°C)	t (CST)	Z (ft)	T (°C)	t (CST)	Z (ft)	T (°C)
2136	920	19.3	2101	985	6.4	1915	766	11.7
2137	834	19.4	2105	846	6.0	1919	689	11.9
2142	756	19.4	2108	655	6.8	1920	630	12.5
2143	695	19.4	2110	573	6.7	1922	495	12.5
2144	564	19.4	2112	564	6.8			
2147	567	19.8	2115	433	7.3			
2150	473	19.8	2118	346	7.5			
2152	380	19.3	2120	212	7.8			
			2122	173	7.9			
			2125	98	8.0			
			2128	sfc	8.3			

SURFACE WIND MEASUREMENTS AT TRACER RELEASE SITES

Ten-minute averages of wind direction and speed at the tracer release sites are presented in Table 12. The periods of record vary considerably, although in each instance the interval of tracer dissemination is covered.

For the dissemination site at the Knights of Columbus Building, the data obtained were often unusable. Sometimes instrumentation was oriented with the recorder chart crossover direction too close to the most frequent wind direction, causing a wind direction trace to "paint" the entire width of the chart. At times, fluctuations in both the speed and direction traces were so large and frequent that averages could not be estimated. These cases of large fluctuations probably were the result of mechanical turbulence.

TABLE 12. SURFACE WIND MEASUREMENTS AT TRACER RELEASE SITES

Symbols

Site A : Forest Park

Site B : Roof of the Knights of Columbus Building

D(deg) : Wind direction in whole degrees of azimuth

S(mph) : Wind speed in whole miles per hour

- : Missing data

Table 12 (continued). SURFACE WIND MEASUREMENTS AT TRACER RELEASE SITES

Experiment No. 2			Experiment No. 3			Experiment No. 4			Experiment No. 12			Experiment No. 13			Experiment No. 15		
27 May 1963			28 May 1963			19 July 1963			17 September 1963			18 September 1963			6 April 1964		
Tracer Release:Site A			Tracer Release:Site A			Tracer Release:Site A			Tracer Release:Site B			Tracer Release:Site B			Tracer Release:Site B		
(1410 to 1440 CST)			(1000 to 1100 CST)			(1130 to 1230 CST)			(2000 to 2030 CST)			(2000 to 2100 CST)			(2040 to 2140 CST)		
t (CST)	D(deg)	S(mph)	t (CST)	D(deg)	S(mph)	t (CST)	D(deg)	S(mph)	t (CST)	D(deg)	S(mph)	t (CST)	D(deg)	S(mph)	t (CST)	D(deg)	S(mph)
1330	215	6	0930	272	5	1100	218		1930	114	8	1950	-	4	2010	183	5
40	238	5	40	253	4	10	225		40	108	9	2000	-	4	20	192	8
50	225	6	50	252	6	20	227		50	115	8	10	-	4	30	192	5
1400	250	4	1000	255	7	30	232		2000	117	8	20	040	4	40	184	5
10	240	4	10	267	6	40	230		10	115	7	30	043	4	50	194	7
1420	242	4	1020	285	7	1150	235	MISSING	2020	114	7	2040	050	4	2100	224	7
30	228	4	30	-	6	1200	234		30	110	7	50	058	4	10	282	10
40	247	6	40	-	6	10	221		40	110	7	2100	076	3	20	281	4
50	234	6	50	255	7	20	232		50	108	7	10	070	4	30	267	7
1500	193	5	1100	282	5	30	223		2100	099	10	20	060	3	40	287	8
1510	210	5	1110	253	5	1240	212										
20	223	5	20	282	5	50	217								2150	292	7
30	230	5	30	260	5										2200	278	5
40	225	5															
Experiment No. 8			Experiment No. 9			Experiment No. 11			Experiment No. 16			Experiment No. 17			Experiment No. 18		
26 July 1963			12 September 1963			16 September 1963			7 April 1964			8 April 1964			9 April 1964		
Tracer Release:Site B			Tracer Release:Site A			Tracer Release:Site B			Tracer Release:Site A			Tracer Release:Site A			Tracer Release:Site A		
(1045 to 1145 CST)			(1115 to 1215 CST)			(1100 to 1200 CST)			(2048 to 2148 CST)			(2030 to 2130 CST)			(2045 to 2145 CST)		
t (CST)	D(deg)	S(mph)	t (CST)	D(deg)	S(mph)	t (CST)	D(deg)	S(mph)	t (CST)	D(deg)	S(mph)	t (CST)	D(deg)	S(mph)	t (CST)	D(deg)	S(mph)
1020		7	1050	284		1030	130		2010	307	4	2000	262	3	2020	222	2
30		5	1100	297		40	122		20	303	6	10	262	3	30	220	2
40		7	10	337		50	115		30	306	5	20	254	4	40	203	2
50		8	20	320		1100	105		40	309	6	30	266	3	50	224	2
1100		7	30	325		10	115		50	302	7	40	263	4	2100	202	2
1110		7	1140	319		1120	150										
20	MISSING	7	50	328	MISSING	30	120		2100	302	5	2050	257	3	2110	204	2
30		7	1200	327		40	122		10	317	9	2100	263	3	20	205	3
40		6	10	314		50	112		20	319	9	10	261	4	30	214	3
50		7	20	320		1200	132		30	312	8	20	267	5	40	206	3
									40	318	9	30	265	4	50	206	

Table 12 (continued). SURFACE WIND MEASUREMENTS AT TRACER RELEASE SITES

Experiment No. 19 2 June 1964 Tracer Release: Site A (1030 to 1130 CST)				Experiment No. 20 3 June 1964 Tracer Release: Site A (1040 to 1140 CST)				Experiment No. 21 4 June 1964 Tracer Release: Site B (1030 to 1130 CST)				Experiment No. 25 10 June 1964 Tracer Release: Site A (1033 to 1133 CST)				Experiment No. 26 11 June 1964 Tracer Release: Site B (1035 to 1135 CST)				Experiment No. 27 10 October 1964 Tracer Release: Site B (1130 to 1230 CST)			
t(CST)	D(deg)	S(mph)		t(CST)	D(deg)	S(mph)		t(CST)	D(deg)	S(mph)		t(CST)	D(deg)	S(mph)		t(CST)	D(deg)	S(mph)		t(CST)	D(deg)	S(mph)	
1000	310	6		1020	305	5		1010	200	5		1000	315	3		1010		6		1100		3	
10	322	6		30	320	5		20	191	4		10	286	4		20		7		10		3	
20	342	5		40	314	3		30	190	4		20	261	4		30		9		20		3	
30	312	6		50	305	4		40	194	4		30	237	3		40		9		30		3	
40	287	7		1100	273	4		50	152	4		40	318	4		50		8		40		5	
1050	296	6		1110	223	4		1100	173	4		1050	270	3		1100		5		1150	MISSING	5	
1100	278	7		20	242	4		10	168	5		1100	264	3		10		7		1200		4	
10	291	6		30	227	3		20	178	5		10	273	4		20		8		10		3	
20	323	6		40	233	6		30	167	5		20	-	3		30		6		20		5	
30	283	7		50	292	6		40	143	5		30	-	3		30		3		20		5	
1140	295	7		1200	270	4		1150	157	4		1140	-	3									
50	282	7										50	-	3									
Experiment No. 22 6 June 1964 Tracer Release: Site A (1130 to 1230 CST)				Experiment No. 23 7 June 1964 Tracer Release: Site A (1132 to 1232 CST)				Experiment No. 24 9 June 1964 Tracer Release: Site A (1030 to 1130 CST)				Experiment No. 28 11 October 1964 Tracer Release: Site B (1105 to 1205 CST)				Experiment No. 29 12 October 1964 Tracer Release: Site A (2000 to 2100 CST)				Experiment No. 30 16 October 1964 Tracer Release: Site B (2000 to 2100 CST)			
t(CST)	D(deg)	S(mph)		t(CST)	D(deg)	S(mph)		t(CST)	D(deg)	S(mph)		t(CST)	D(deg)	S(mph)		t(CST)	D(deg)	S(mph)		t(CST)	D(deg)	S(mph)	
1100	195	5		1100	208			1000	190	8		1030		6		2010	220			1930	144	1	
10	172	5		10	242			10	183	9		40		7		20	280			40	160	2	
20	163	6		20	207			20	190	9		50		7		30	325			50	183	2	
30	160	6		30	210			30	186	8		1100		6		40	323			2000	195	3	
40	188	6		40	255			40	178	11		10		6		50	342			10	208	3	
1150	180	6		1150	237			1050	181	10				5		2100	330			2020	200	2	
1200	181	6		1200	233			1100	182	9		1120		5		10	315			30	208	2	
10	165	7		10	250			10	191	8		30		6		20	325			40	191	2	
20	170	7		20	255			20	185	9		40		8		30				50	204	2	
30	168	5		30	247			30	174	12		50		6		40				2100	214	2	
1240	171	5		1240	225			1140	174	9		1200		6									
50	188	5		50	235			50	183	10		1210		6						2110	203	2	
								1200	184	9		30		5						20	195	3	

Table 12 (continued). SURFACE WIND MEASUREMENTS AT TRACER RELEASE SITES

Experiment No. 32 19 October 1964 Tracer Release: Site A (1945 to 2045 CST)			Experiment No. 33 20 October 1964 Tracer Release: Site A (1915 to 2015 CST)			Experiment No. 34 21 October 1964 Tracer Release: Site A (1920 to 2020 CST)			Experiment No. 38 11 March 1965 Tracer Release: Site A (2030 to 2130 CST)			Experiment No. 39 13 March 1965 Tracer Release: Site A (1220 to 1320 CST)			Experiment No. 40 14 March 1965 Tracer Release: Site A (1100 to 1200 CST)		
t(CST)	D(deg)	S(mph)	t(CST)	D(deg)	S(mph)	t(CST)	D(deg)	S(mph)	t(CST)	D(deg)	S(mph)	t(CST)	D(deg)	S(mph)	t(CST)	D(deg)	S(mph)
1910	320	3	1840	206	4	1840	348	3	2000	255	2	1150	275	3	1030	303	7
20	357	3	50	210	4	50	354	4	10	213	3	1200	303	3	40	303	8
30	352	4	1900	213	4	1900	348	4	20	232	2	10	020	3	50	293	7
40	360	2	10	210	5	10	352	3	30	252	3	20	018	3	1100	282	7
50	343	3	20	207	4	20	359	5	40	333	2	30	024	4	10	302	7
2000	337	4	1930	206	5	1930	356	4	2050	336	3	1240	007	5	1120	292	7
10	338	3	40	198	4	40	358	4	2100	293	4	50	327	4	30	309	7
20	325	2	50	212	4	50	346	3	10	307	4	1300	005	4	40	297	6
30	317	3	2000	217	5	2000	355	3	20	302	3	10	358	3	50	300	7
40	312	3	10	213	4	10	355	3	30	328	2	20	296	3	1200	309	7
2050	293	3	2020	203	4	2020	353	3	2140	343	3	1330	319	3	1210	302	9
2100	294	3	30	210	5	30	347	3	40	347	4	40	023	3	20	307	8
Experiment No. 35 6 March 1965 Tracer Release: Site A (1230 to 1330 CST)			Experiment No. 36 7 March 1965 Tracer Release: Site A (1230 to 1330 CST)			Experiment No. 37 8 March 1965 Tracer Release: Site A (2030 to 2130 CST)			Experiment No. 41 15 March 1965 Tracer Release: Site A (2050 to 2150 CST)			Experiment No. 42 16 March 1965 Tracer Release: Site B (2030 to 2130 CST)			Experiment No. 43 17 March 1965 Tracer Release: Site A (2000 to 2100 CST)		
t(CST)	D(deg)	S(mph)	t(CST)	D(deg)	S(mph)	t(CST)	D(deg)	S(mph)	t(CST)	D(deg)	S(mph)	t(CST)	D(deg)	S(mph)	t(CST)	D(deg)	S(mph)
1200	298		1200	012		2000	282	8	2020	274	2	2000		9	1930	302	13
10	292		10	027		10	290	8	30	302	2	10		8	40	298	12
20	292		20	038		20	283	7	40	285	2	20		6	50	300	10
30	300		30	016		30	287	5	50	340	2	30		5	2000	289	12
40	291		40	019		40	282	6	2100	350	2	40		7	10	302	10
		MISSING			MISSING												
1250	293		1250	024		2050	287	7	2110	335	2	2050		10	2020	280	12
1300	290		1300	021		2100	278	6	20	338	2	2100		10	30	302	12
10	305		10	013		10	274	5	30	336	2	10		10	40	307	10
20	294		20	007		20	286	5	40	315	2	20		10	50	311	9
30			30	333		30	281	5	50	313	2	30		12	2100	294	10
1340	301		1340	350		2140	285	6	2200	304	2	2140		13	2110	276	12
50	292								10	317	2				20	292	10

SURFACE WEATHER MEASUREMENTS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

Table 13 presents significant data from the hourly surface weather observations at WBAS St. Louis for the period about 3 hours before the tracer release to about 6 hours after it ended. Special and check observations would have been included had any yielded significant data. Only three cloud layers are listed, since no more than three layers were observed. Heights of the clouds are in hundreds of feet above the surface, amounts of sky cover are in tenths, and cloud movement directions are in compass points toward which the clouds move (compass points are represented by symbolic arrows). Times of observations are the times at which the final weather element, wind velocity, is measured. Beginning in 1964 wind directions were read to the nearest ten degrees of azimuth from which the wind is blowing rather than to the nearest 16 points of the compass. For uniformity in the reporting of winds, all wind directions are reported in terms of compass points. Observational techniques, rules, and symbolic abbreviations are given in U. S. Weather Bureau (1964 a).

Table 13. SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

DATE 27 MAY 1963 EXPERIMENT NO. 2 TRACER RELEASE FROM 1410 TO 1440 CST

TIME (CST)	CLOUDS AND OBSCURING PHENOMENA												TOTAL SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS (mb)	TEMP (°F)	DEW PT. (°F)	WIND		REMARKS
	LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION TOTAL		DIREC- TION	SPEED (kts)											
	AMT	HEIGHT DIR	AMT	HEIGHT DIR	AMT	HEIGHT DIR	AMT	HEIGHT TOTAL													
0755	10	Sc	M50	U						U			10	2	RW-F	090	63	62	WNW	6	
0855	10	3	St	5	4	St	M9			3	Sc	50	10	7		090	66	63	NW	7	RE OS
0955	10	6	Sc	M10	4	Cu	50			U			10	10		089	69	63	WNW	4	B IN OVC
1055	10	2	Sc	14	4	Sc	M25	6	4	Cu	50		10	15		089	69	63	NW	7	
1155	9	7	Cu	M20	2	Cu	40	9	0				9	15		089	70	66	WNW	7	R B O3 E15 B25 E35
1255	8	8	Cu	M30	0			8	0				8	15+		092	72	62	W	10	
1355	8	3	Cu	30	5	Ac	E100	8	0				8	15+		092	72	62	WNW	8	
1455	7	7	Cu	M30	0			7	0				7	15+		092	77	64	WNW	12	
1555	6	6	Cu	E30	0			6	0				6	15		092	74	63	W	13	
1655	4	4	Sc	30	0			4	0				4	15		092	76	61	WNW	12	
1755	5	5	Sc	30	0			5	0				5	15		096	74	62	W	13	

DATE 28 MAY 1963 EXPERIMENT NO. 3 TRACER RELEASE FROM 1000 TO 1100 CST

TIME (G.C.T.)	CLOUDS AND OBSCURING PHENOMENA										TOTAL OPAQUE SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP (°F)	DEW PT. (°F)	WIND		REMARKS
	LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION TOTAL	SUMMA- TION TOTAL											
	AMT.	TYPE & DIR.	AMT.	TYPE & DIR.	AMT.	TYPE & DIR.			DIREC- TION	SPEED (kts)									
0355	1	1 Ci	/	0			1	0		7		099	62	60	S	8			
0455	10	10 Sf	M6	U			10			6	F	103	62	61	W	13			
0555	4	0 Sf	7	4 Ci	/		4	0		6	F	115	63	61	W	10		SF E	
0655	6	6 Sc	M12	0			6	0		7		120	64	60	W	12			
0755	7	7 Sc	M15	0			7	0		15		126	67	60	WNW	15			
0855	8	3 Sc	20	5 Sc	M30		8	0		15		130	69	60	W	14	+20		
0955	10	4 Sc	30	6 Sc	M40		10	U		15+		126	68	58	W	15	+25	B IN OVC	
1055	10	10 Sc	M35	U				U		15+		130	69	58	WNW	12		B IN OVC	
1155	9	6 Sc	M28	3 Sc	40		9	0		15+		134	70	60	WNW	12	+18		
1255	10	7 Sc	M25	3 Sc	38		10	U		15+		137	68	59	W	10			
1355	8	1 Sc	25	7 Sc	M48		8	0		15+		134	71	59	W	15	+20		

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS
DATE 19 JULY 1963 EXPERIMENT NO. 4 TRACER RELEASE FROM 1130 TO 1230 CST

TIME (CST)	CLOUDS AND OBSCURING PHENOMENA				THIRD LAYER		SUMMA- TION TOTAL	TOTAL OPAQUE SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP (°F)	DEW PT. (°F)	WIND		REMARKS
	LOWEST LAYER	SECOND LAYER	THIRD LAYER	THIRD LAYER	TYPE &	HEIGHT								OREC- TION	WIND SPEED (kt)	
	AMT.	AMT.	AMT.	AMT.	DIR.											
0455	1	Ac	80	0			1	1	15		148	78	70	SW	6	
0555	3	Ac	100	1	ci		3	2	15		152	78	70	SW	7	
0655	4	Ac	100	3	cc		4	4	15		155	80	70	SW	8	
0755	8	Acc	E100	2	ci		8	6	15		169	81	70	WNW	5	Acc E-S MOVG SE
0855	6	Acc	100	5	ci		6	2	15		163	85	71	WSW	9	Acc S
0955	7	Ac	100	7	ci		7	1	15		163	87	71	SW	10	FEW Ac
1055	2	cu	45	2	ci		2	0	15		160	89	73	SW	12	FEW cu N AND E
1155	2	cu	45	1	Ac	100	1	1	15		152	91	73	SW	12	cu BLDG W
1255	2	cu	45	2	Ac	90	2	2	15		140	93	73	WSW	14	FEW cu
1355	0	cu	45	0	ci		0	0	15		130	95	71	SSW	16	FEW cu, ci
1455	1	cu	45	1	cc		1	1	15		126	96	72	SSW	14	+20
1555	3	cu	45	1	Ac	100	1	2	15		120	96	71	SSW	11	FEW cu

DATE 22 JULY 1963 EXPERIMENT NO. 5 TRACER RELEASE FROM 1104 TO 1204 CST

TIME (CST)	CLOUDS AND OBSCURING PHENOMENA				THIRD LAYER		SUMMA- TION TOTAL	TOTAL OPAQUE SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP (°F)	DEW PT. (°F)	WIND		REMARKS
	LOWEST LAYER	SECOND LAYER	THIRD LAYER	THIRD LAYER	TYPE &	HEIGHT								OREC- TION	WIND SPEED (kt)	
	AMT.	AMT.	AMT.	AMT.	DIR.											
0455	4	Ac	150	0			4	4	12		132	71	64	SW	6	
0555	4	Ac	180	0			4	4	12		132	72	64	WSW	7	
0655	7	Ac	E180	0			7	7	12		136	75	65	S	4	
0755	8	Ac	E180	0			8	7	12		142	80	65	S	10	
0855	7	cu	40	4	Ac	E180	7	6	12		146	80	65	SW	6	
0955	6	cu	20	4	Ac	E180	6	5	12		142	81	68	WSW	9	
1055	3	cu	30	3	Ac	180	3	3	12		136	84	68	SW	8	FEW cu
1155	4	cu	45	3	Ac	180	4	4	15		132	86	66	S	10	
1255	2	cu	45	1	Ac	180	2	2	15		125	88	66	S	7	
1355	3	cu	45	0			3	3	15		121	88	67	SSW	10	
1455	4	cu	50	1	Ac	80	4	4	15		114	90	66	SSE	12	

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS
DATE 23 JULY 1963 EXPERIMENT NO. 6 TRACER RELEASE FROM 1130 TO 1230 CST

TIME (LST)	TOTAL SKY COVER	CLOUDS AND OBSCURING PHENOMENA										TOTAL SKY COVER	SURFACE VISIBILITY (mi) (s)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS (in)	TEMP (°F)	DEW PT. (°F)	WIND		REMARKS
		LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION TOTAL	CHARAC- TER AND SHIFTS											
		AMT	TYPE & DIR	AMT	TYPE & DIR	AMT	TYPE & DIR			DIREC- TION	SPEED (kts)									
0455	1	1	Cb	50	0			1	0			1	2 1/2	F	132	69	67	NNE	5	CB SW
0555	1	1	Cb	50	0			1	0			1	2 1/2	F	139	72	69	SE	4	CB SW
0655	1	1	Cb	50	0			1	0			1	1 1/2	F	142	75	70	SE	5	CB SW
0755	3	3	Cu	25	0			3	0			3	3	K H	149	80	70	SE	8	
0855	6	6	Cu	E30	0			6	0			6	5	K H	142	80	70	SSE	6	VSBY LWR E
0955	7	7	Cu	A22	0			7	0			7	5	K H	146	82	69	ESE	10	
1055	7	7	Cu	A25	0			7	0			7	7		146	85	69	ESE	12	
1155	7	7	Cu	A25	0			7	0			7	7		142	88	69	SSE	12	
1255	5	5	Cu	30	0			5	0			5	5	7	142	89	69	E	10	
1355	4	4	Cu	40	0			4	0			4	4	7	135	91	67	ENE	11	
1445	3	3	Cu	50	0			3	0			3	3	7	132	90	65	ESE	7	
1555	2	2	Cu	50	0			2	0			2	2	10	130	88	67	ESE	8	

DATE 25 JULY 1963 EXPERIMENT NO. 7 TRACER RELEASE FROM 1040 TO 1140 CST

TIME (C.S.T.)	TOTAL SKY COVER	CLOUDS AND OBSCURING PHENOMENA										WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP (°F)	DEW TEMP. (°F)	WIND		REMARKS
		LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION TOTAL	SURFACE VISIBILITY (miles)	CHARAC- TER AND SHIFTS								
		AMT.	TYPE & DIR	AMT.	TYPE & DIR	AMT.	TYPE & DIR				DIREC- TION					SPEED (kts)		
0355	0				0				0	0	188	67	63	SE	5			
0455	0				0				0	0	191	67	63	SE	7			
0555	0				0				0	0	195	69	64	SE	3			
0655	0				0				0	0	201	75	66	SE	8			
0755	0				0				0	0	204	78	67	SSE	4			
0855	0				0				0	0	204	80	67	SSE	6			
0955	0	0	CU	45	0				0	0	204	82	65	SE	8	FEW CU		
1055	3	3	CU	45	0				3	3	201	84	65	SSE	12	MDT CU ALQDS		
1155	3	3	CU	45	0				3	3	201	86	64	SE	10			
1255	4	4	CU	40	0				4	4	193	87	64	SE	9			
1355	4	4	CU	40	0				4	4	193	86	64	SSE	8	MDT CU ALQDS		
1455	6	6	CU	E40	0				6	6	190	87	64	SSE	11			

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI
 DATE 26 JULY 1963
 (WBAS, LAMBERT FIELD)
 EXPERIMENT NO. 8
 SURFACE WEATHER OBSERVATIONS
 TRACER RELEASE FROM 1045 TO 1145 CST

TIME (CST)	CLOUDS AND OBSCURING PHENOMENA										TOTAL SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS (mb)	TEMP (°F)	OE W (°F)	WIND DIRECTION	WIND SPEED (kts)	CHARACTER AND SHIFTS	REMARKS
	LOWEST LAYER	SECOND LAYER	THIRD LAYER	AMT	TYPE	HEIGHT	AMT	TYPE	HEIGHT	AMT	TYPE	HEIGHT								
0355				0			0			0		12		194	70	64	SE	8		
0455				0			0			0		10		201	68	64	SE	7		
0555				0			0			0		7		205	70	65	SE	7		
0655				0			0			0		7		208	74	67	SE	10		
0755				0			0			0		8		211	76	67	SE	10		
0855	3	CU	30	0			3	0		3	0	10		208	80	68	S	8		
0955	7	CU	E28	0			7	0		7	0	8		208	81	68	SSE	12	TCU	ALQDS
1055	7	CU	M28	0			7	0		7	0	10		208	80	68	SSE	15		
1155	5	CU	30	0			5	0		5	0	10		204	82	68	SSE	14	TCU	ALQDS
1255	6	CU	E35	0			6	0		6	0	12		197	85	66	SSE	14	TCU	ALQDS
1355	4	CU	35	0		Ac ⁺ 120	4	0		4	0	12		190	85	65	S	12	TCU	ALQDS
1455	4	CU	35	1	CI	/	4	0		4	0	12		187	86	65	S	15		

DATE 12 SEPTEMBER 1963
 EXPERIMENT NO. 9
 TRACER RELEASE FROM 1115 TO 1215 CST

TIME (CST)	CLOUDS AND OBSCURING PHENOMENA										TOTAL SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS (mb)	TEMP (°F)	OE W (°F)	WIND DIRECTION	WIND SPEED (kts)	CHARACTER AND SHIFTS	REMARKS
	LOWEST LAYER	SECOND LAYER	THIRD LAYER	AMT	TYPE	HEIGHT	AMT	TYPE	HEIGHT	AMT	TYPE	HEIGHT								
0455	0			0			0			0		10		115	72	67	W	7		
0555	3	CI	/	0			3	0		3	1	10		115	71	67	W	10		
0655	6	CI	/	0			6	0		6	2	10		125	73	67	W	9		
0755	2	CI	/	0			2	0		2	0	12		128	75	68	W	16		
0855	2	CI	/	0			2	0		2	0	15		132	80	69	WNW	15		
0955	2	CU	35	2	CI	/	2	0		2	0	15		135	80	70	NW	10	CU W WND SHTD	GRDLY
1055	5	1	CU	35	4	CI	5	0		5	1	15		139	84	69	NW	13		
1155	8	4	CU	60	4	CI	8	0		8	7	15		139	81	67	NW	9		
1255	8	5	CU	50	3	CI	8	0		8	7	15		142	83	66	NNW	12		
1355	9	4	CU	40	5	CI	9	0		9	8	15		145	80	64	NNW	13		
1455	9	5	CU	40	4	CI	9	0		9	8	15		139	82	64	NNW	13		
1555	8	5	CU	40	3	CI	8	0		8	7	15		139	80	66	NNW	17		

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST LOUIS , MISSOURI										(WBAS , LAMBERT FIELD)										SURFACE WEATHER OBSERVATIONS									
DATE 14 SEPTEMBER 1963										EXPERIMENT NO. 10										TRACER RELEASE FROM 1045 TO 1145 CST									
TIME (C.S.T.)	TOTAL SKY COVER			CLOUDS AND DBSCURING PHENOMENA										TOTAL OPAQUE SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS (mb)	TEMP (°F)	DEW PT (°F)	WIND		REMARKS							
	LOWEST LAYER	SECOND LAYER			THIRD LAYER			SUMMA- TION TOTAL				DIREC- TION	SPEED (kts)																
	AMT	HEIGHT DIR		AMT	HEIGHT DIR		AMT	HEIGHT DIR		AMT	HEIGHT DIR																		
0355	0	0		0			0			0			0	15		216	51	48	ENE	3									
0455	0	0		0			0			0			0	15		216	49	45	E	7	KLYR								
0555	3	ci	↑	0			3			0			3	1	15	223	48	47	E	5									
0655	1	ci	↑	0			1			0			1	0	15	226	51	49	E	6									
0755	0	0		0			0			0			0	10		225	55	50	ESE	7									
0855	0	0		0			0			0			0	7		226	60	50	ESE	5									
0955	0	0		0			0			0			0	10		222	65	51	E	4									
1055	0	0		0			0			0			0	15		218	69	53	ENE	6									
1155	0	cu	35	0			0			0			0	15		214	71	52	ESE	8	FEW CU								
1255	0	cu	35	0			0			0			0	15		216	72	53	ENE	5	FEW CU								
1355	0	0		0			0			0			0	15		207	73	53	ESE	10									
1455	0	cu	40	0			0			0			0	15		201	74	53	ESE	9	FEW CU								

DATE 16 SEPTEMBER 1963										EXPERIMENT NO. 11										TRACER RELEASE FROM 1100 TO 1200 CST									
TIME (CST)	CLOUDS AND OBSCURING PHENOMENA										TOTAL SKY COVER	SURFACE VISIBILITY (mi/m2)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mbs)	TEMP (°F)	DEW PT. (°F)	WIND		REMARKS										
	LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA-TION		DIREC-TION	SPEED (kts)							CHARAC-TER AND SHIFTS												
	AMT.	TYPE & DIR	HEIGHT	AMT.	TYPE & DIR	HEIGHT	AMT	TYPE & DIR	HEIGHT	TOTAL																			
0455	9	9 Sc↑	M39	0			9	0		9	9	5	GF	230	64	64	SSE	4											
0555	10	10 Sc↑	M43	0				0		10	10	3	GF	234	65	64	SE	4											
0655	10	10 Sc↑	M43	0				0		10	10	2	GF	238	66	64	ESE	5	HK L Y R O V R C T Y										
0755	2	2 Sc↑	45	0			2	0		2	2	1 1/2	HK	241	70	66	SE	8											
0855	1	1 Sc↑	60	0			1	0		1	1	4	HK	243	74	67	SE	7											
0955	3	3 Cu↑	30	0			3	0		3	3	5	K	247	77	66	SE	9											
1055	3	3 Cu↑	30	0			3	0		3	3	7		244	79	66	SE	13											
1155	4	4 Cu↑	35	0			4	0		4	4	8		240	80	66	SE	12											
1255	4	4 Cu↑	35	0			4	0		4	4	8		230	80	65	SE	11											
1355	4	4 Cu↑	35	0			4	0		4	4	10		227	81	65	SE	11											
1455	5	5 Cu↑	35	0			5	0		5	5	10		223	82	63	SSE	13											

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI
 DATE 17 SEPTEMBER 1963
 (WBAS, LAMBERT FIELD)
 EXPERIMENT NO. 12
 SURFACE WEATHER OBSERVATIONS
 TRACER RELEASE FROM 2000 TO 2030 CST

TIME (CST)	CLOUDS AND OBSCURING PHENOMENA											TOTAL SKY COVER	REMARKS					
	LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION TOTAL	TOTAL OPACU- ITY SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (inches)			TEMP (°F)	DEW PT. (°F)	WIND		CHARAC- TER AND SHIFTS
	AMT	TYPE & DIR	AMT	TYPE & DIR	AMT	TYPE & DIR										HEIGHT	DIREC- TION	
1355	9	0	Cu	40	9	Ci	/	9	0			237	84	61	SSE	6	FEW CU	
1455	9	2	Cu	40	7	Cs	/	9	0			229	84	60	ESE	8		
1555	9	1	Cu	40	5	Ac	E100	6	3	Ci	/	226	81	60	ESE	7		
1655	9	0	Cu	40	6	Ac	E100	6	3	Ci	/	223	81	61	SE	5	FEW CU	
1755	8	6	Ac	E120	2	Ci	/	8	0			226	76	60	SE	7		
1855	6	2	Ac	120	4	Ci	/	6	0			226	72	59	SE	7		
1955	2	2	Ci	/	0			2	0			230	71	57	SE	5		
2055	0	0			0			0	0			233	69	56	SE	8		
2155	0	0			0			0	0			232	69	56	SE	7		
2255	0	0			0			0	0			236	68	56	SSE	4		
2355	0	0			0			0	0			233	64	58	SSE	3		

ST. LOUIS, MISSOURI
 DATE 18 SEPTEMBER 1963
 (WBAS, LAMBERT FIELD)
 EXPERIMENT NO. 13
 SURFACE WEATHER OBSERVATIONS
 TRACER RELEASE FROM 2000 TO 2100 CST

TIME (CST)	CLOUDS AND OBSCURING PHENOMENA										TOTAL SKY COVER	REMARKS						
	LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION		TOTAL SKY COVER									
	AMT.	TYPE & DIR.	AMT.	TYPE & DIR.	AMT.	TYPE & DIR.	TOTAL	AMT.										
1355	0	0	0		0	0		0	0	0	6	K	202	82	54	ENE	8	WND VRBL
1455	0	0	0		0	0		0	0	0	7		192	83	57	SE	7	WND VRBL
1555	0	0	0		0	0		0	0	0	7		187	84	57	NE	3	WND LGT AND VRBL
1655	0	0	0		0	0		0	0	0	7		185	81	58	NE	5	
1755	0	0	0		0	0		0	0	0	7		185	77	56	E	5	
1855	0	0	0		0	0		0	0	0	7		185	74	55	E	3	
1955	0	0	0		0	0		0	0	0	7		188	72	52	E	3	
2055	0	0	0		0	0		0	0	0	7		188	67	55	E	3	
2155	0	0	0		0	0		0	0	0	7		185	65	56	NNE	3	
2255	0	0	0		0	0		0	0	0	7		185	63	56	ESE	3	
2355	0	0	0		0	0		0	0	0	7		184	63	54	SE	4	

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST LOUIS , MISSOURI										(WBAS , LAMBERT FIELD)										SURFACE WEATHER OBSERVATIONS									
DATE 1 APRIL 1964										EXPERIMENT NO. 14										TRACER RELEASE FROM 1200 TO 1300 CST									
TIME (CST)	CLOUDS AND OBSCURING PHENOMENA										TOTAL SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS (mb)	TEMP (°F)	DEW PT. (°F)	WIND		CHARAC-TER AND SHIFTS	REMARKS									
	LOWEST LAYER	SECOND LAYER		THIRD LAYER		SUMMA-TION	DIREC-TION	SPEED (kts)																					
	AMT	TYPE & DIR	HEIGHT	AMT	TYPE & DIR	HEIGHT	AMT	TYPE & DIR	HEIGHT	TOTAL																			
0455	0	0		0	0		0	0		0	0	15		205	33	20	ESE	10											
0555	6	Ac	E120	0	0		6	0		6	4	5	K	205	32	21	ESE	9											
0655	10	Ac	E90	0	0			0			10	5	K	210	33	22	ESE	13	BINOVC PIREPS W STL 800180 RW-										
0755	10	Ac	E80	0	0			0			10	6	RW-- K	206	35	24	SE	12	BINOVC RB25 PIREPS 10W STL 0V0120-130										
0855	8	Ac	E80	0	0		8	0		8	8	7		203	38	24	SE	13	REO3										
0955	8	Ac	E80	0	0		8	0		8	8	7		188	43	25	SE	15											
1055	8	Ac	E80	0	0		8	0		8	8	7		178	49	24	SSE	14											
1155	8	Ac	E80	0	0		8	0		8	8	7		164	52	27	ESE	15											
1255	10	Ci	/	0	0		10	0		10	5	10		146	56	28	SE	14											
1355	10	3 Ac	80	7 Cs	U		10	U			10	8		140	56	28	SE	14	BINOVC										
1455	10	3 Sc	50	3 Ac	E80		6	4 Cs	/	10	10	8		126	58	31	SE	15	BINOVC RB14 E18										
1555	10	3 Sc	50	3 Ac	E80		6	4 Cs	/	10	9	8		114	58	31	SE	15	PRESFR										

DATE 6 APRIL 1964 EXPERIMENT NO. 15 TRACER RELEASE FROM 2040 TO 2140 CST

TIME (CST)	CLOUDS AND OBSCURING PHENOMENA										TOTAL SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP (°F)	DEW PT. (°F)	WIND		CHARAC- TER AND SHIFTS	REMARKS
	LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION	TOTAL												
	AMT.	HEIGHT DIR	TYPE	AMT.	HEIGHT DIR	TYPE			AMT.											
1355	0	0		0						0	0	15	042	76	46	SSE	17	G 23		
1455	0	0	CU	30	0					0	0	15	037	77	44	S	18	G 28	LTGN TCU DIST NW FEW CU	
1555	3	0	CU	45	2	AC	80	2	1	CI	/	3	026	77	40	SSW	15	G 22	FEW CU CB TOPS DIST NW	
1655	8	6	CB	E40	2	CI	/	8	0		8	15	021	74	43	SSE	18		CB S-W-N MOVG NEWD RWU SW-NW	
1755	10	8	CM	E45	2	AC	80	10	0	0	10	15	038	69	40	W	25	G 36	CM ALQDS MOVG NEWD BINOVC RB30	
/																			PRJMP 6/1730C/40 OCNL LTGIC N	
1855	8	8	CB	E60	0			8	0		8	15	037	67	41	W	5		CB SW-NE MOVG EWD RWU SW-NE REO3	
1955	8	8	AC	E70	0			8	0		8	15	046	67	39	S	10			
2055	10	10	AC	M75	0				0		10	15	065	68	40	W	12		RBO5	
2155	10	10	AC	E75	0				0		10	15	068	66	41	SSW	11			
2255	10	10	AC	E75	0				0		10	15	069	65	40	WSW	9		RE20 OCNL LTGIC SE	
2355	3	3	AC	100	0			3	0		3	15	063	62	40	WSW	4		OCNL LTGIC NE	

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI
 DATE 7 APRIL 1964
 (WBAS, LAMBERT FIELD)
 SURFACE WEATHER OBSERVATIONS
 EXPERIMENT NO. 16
 TRACER RELEASE FROM 2048 TO 2148 CST

TIME (C.S.T.)	CLOUDS AND OBSCURING PHENOMENA										TOTAL SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP (°F)	DEW PT. (°F)	WIND		REMARKS	
	LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION TOTAL	CHARAC- TER AND SHIFTS												
	AMT.	TYPE & DIR.	AMT.	TYPE & DIR.	AMT.	TYPE & DIR.			OREC- TION	SPEED (kts)										
1355	8	CU	E 35	0			8	0			8	15		147	51	31	WNW	20	G 26	35 ⊕ 51
1455	10	CU	M 40	U				U			10	15		154	48	30	WNW	18	G 25	B IN OVC
1555	10	SC	M 50	U				U			10	15		158	46	29	WNW	19	G 25	
1655	10	8 SC	M 40	2	SC	50	10	U			10	15		165	45	29	WNW	21	G 26	23 E STL ⊕ 70
1755	10	4 SC	34	6	SC	M 48	10	U			10	15		170	44	28	NW	16		
1855	10	4 SC	38	6	SC	M 44	10	U			10	15		173	44	25	NW	20		
1955	10	10 SC	M 42	U				U			10	15		184	43	26	WNW	14		⊕ 60
2055	10	10 SC	M 42	U				U			10	15		191	43	26	WNW	18		
2155	10	8 SC	M 38	2	SC	46	10	U			10	15		198	42	26	NW	12		
2255	10	10 SC	M 42	U				U			10	15		198	41	23	NW	17	G 25	
2355	10	10 SC	M 38	U				U			10	15		198	39	23	NW	18	G 26	

DATE 8 APRIL 1964
 EXPERIMENT NO. 17
 TRACER RELEASE FROM 2030 TO 2130 CST

TIME (C.S.T.)	CLOUDS AND OBSCURING PHENOMENA										TOTAL SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP (°F)	DEW TEMP (°F)	WIND		REMARKS	
	LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION TOTAL	TOTAL SKY COVER												
	AMT.	TYPE & DIR.	AMT.	TYPE & DIR.	AMT.	TYPE & DIR.														
1355	10	Sc	M 30	U				U			10	15		244	38	23	WNW	14	G 23	
1455	10	Sc	M 35	U				U			10	15		244	40	23	WNW	15	G 24	
1555	10	Sc	M 35	U				U			10	15		244	41	24	WNW	17	G 23	
1655	10	Sc	M 48	U				U			10	15		241	41	24	WNW	15	G 22	BINOV
1755	6	Sc	E 50	0			6	0			6	15		245	41	24	WNW	15		
1855	0	Sc	50	0			0	0			0	15		248	39	24	W	9		FEW SC
1955	0	0		0			0	0			0	15		251	38	24	W	8		
2055	0	0		0			0	0			0	15		255	38	24	W	10		
2155	0	0		0			0	0			0	15		255	36	23	W	10		
2255	0	0		0			0	0			0	15		258	36	23	W	10		
2355	0	0		0			0	0			0	15		260	33	24	W	8		

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS
DATE 9 APRIL 1964 EXPERIMENT NO. 18 TRACER RELEASE FROM 2045 TO 2145 CST

TIME (CST)	CLOUDS AND OBSCURING PHENOMENA				CLOUDS AND OBSCURING PHENOMENA				TOTAL SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP (°F)	DEW PT. (°F)	WIND		REMARKS
	LOWEST LAYER	SECOND LAYER	THIRD LAYER	SUMMA- TION	LOWEST LAYER	SECOND LAYER	THIRD LAYER	SUMMA- TION									
	AMT.	TYPE & DIR.	HEIGHT	AMT.	TYPE & DIR.	HEIGHT	AMT.	TYPE & DIR.	AMT.	TYPE & DIR.	HEIGHT	AMT.	TYPE & DIR.	HEIGHT	DIREC- TION	SPEED (kts)	CHARAC- TER AND SHIFTS
1355	0	0		0	0		0	0	0	15		243	58	20	W	9	G 18
1455	0	0		0	0		0	0	0	15		233	59	23	W	15	
1555	0	0		0	0		0	0	0	15		224	60	21	W	13	
1655	0	0		0	0		0	0	0	15		215	59	20	WSW	15	
1755	0	0		0	0		0	0	0	15		212	58	20	WSW	10	
1855	0	0	Ac 100	0	0		0	0	0	15		208	55	20	WSW	5	FEW AC W
1955	0	0		0	0		0	0	0	15		215	53	20	SSW	7	
2055	0	0		0	0		0	0	0	15		215	52	20	SSW	7	
2155	0	0		0	0		0	0	0	15		211	52	20	SW	7	
2255	7	Ac E 70		7	0		0	7	7	15		206	53	21	SSW	10	
2355	1	Ac 70		1	0		0	1	1	15		206	52	21	SW	7	

DATE 2 JUNE 1964 EXPERIMENT NO. 19 TRACER RELEASE FROM 1030 TO 1130 CST

TIME (CST)	CLOUDS AND OBSCURING PHENOMENA				CLOUDS AND OBSCURING PHENOMENA				TOTAL SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP (°F)	DEW PT. (°F)	WIND		REMARKS
	LOWEST LAYER	SECOND LAYER	THIRD LAYER	SUMMA- TION	LOWEST LAYER	SECOND LAYER	THIRD LAYER	SUMMA- TION									
	AMT.	TYPE & DIR.	HEIGHT	AMT.	TYPE & DIR.	HEIGHT	AMT.	TYPE & DIR.	AMT.	TYPE & DIR.	HEIGHT	AMT.	TYPE & DIR.	HEIGHT	DIREC- TION	SPEED (kts)	CHARAC- TER AND SHIFTS
0355	10	Ac E 80			u				10	10		159	57	50	W	6	
0455	8	Ac E 100	2 Ci	8	0			8	7	10		162	56	49	W	6	
0555	9	Ac E 100	2 Cs	9	0			9	9	10		162	56	49	W	9	
0655	8	Ac E 100	1 Ci	8	0			8	8	10		166	58	48	WNW	10	
0755	5	Ac 100	3 Ci	5	0			5	5	15		171	58	48	WNW	10	
0855	2	Ac 80	0 Ci	2	0			2	2	15		170	64	48	WNW	11	
0955	2	Ac 80	0	2	0			2	2	15		166	67	49	NW	12	
1055	2	1 Cu 45	1 Ac 80	2	0			2	2	15		166	69	49	NW	13	
1155	3	2 Cu 55	1 Ac 80	3	0			3	3	15		161	71	46	WNW	11	G 17
1255	4	3 Cu 55	1 Ac 80	4	0			4	3	15		158	72	48	WNW	15	
1355	6	3 Cu 55	3 Ac E 80	6	0			6	6	15		152	70	44	WNW	12	
1455	8	5 Cu 55	3 Ac E 80	8	0			8	8	15		152	72	48	WNW	12	

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI
DATE 3 JUNE 1964
EXPERIMENT NO. 20
SURFACE WEATHER OBSERVATIONS
TRACER RELEASE FROM 1040 TO 1140 CST

TIME (G.S.T.)	TOTAL SKY COVER	CLOUDS AND OBSCURING PHENOMENA										TOTAL OPAQUE SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP. (°F)	DEW PT. (°F)	WIND		REMARKS
		LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION TOTAL	DIREC- TION	SPEED (kts)	CHARAC- TER AND SHIFTS									
		AMT.	HEIGHT OR DIR.	AMT.	HEIGHT OR DIR.	AMT.	HEIGHT OR DIR.													
0355	0	0		0		0		0		0	0	15		163	50	48	WSW	6		
0455	0	0		0		0		0		0	0	15		167	50	47	W	4		
0555	0	0		0		0		0		0	0	15		170	53	48	W	6		
0655	0	0		0		0		0		0	0	15		176	54	45	W	9		
0755	0	0		0		0		0		0	0	15		179	59	46	W	6		
0855	0	0		0		0		0		0	0	15		179	65	47	W	8		
0955	2	2 Cu	60	0	0	2	0	2	0	2	2	15		176	70	47	WSW	8		
1055	1	1 Cu	60	0	0	1	0	1	0	1	1	15		176	68	48	W	8		
1155	3	2 Cu	60	1 ci	0	3	0	3	0	3	2	15		169	70	47	W	11		
1255	4	1 Cu	60	3 ci	0	4	0	4	0	4	2	15		169	71	48	WSW	12		
1355	4	1 Cu	60	3 ci	0	4	0	4	0	4	2	15		163	72	44	WSW	14		
1455	9	0 Cu	50	9 ci	0	9	0	9	0	9	1	15		160	75	43	W	6	CU DISPTG	

ST. LOUIS, MISSOURI
DATE 4 JUNE 1964
EXPERIMENT NO. 21
SURFACE WEATHER OBSERVATIONS
TRACER RELEASE FROM 1030 TO 1130 CST

TIME (C.S.T.)	CLOUDS AND OBSCURING PHENOMENA										TOTAL SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP (°F)	DEW PT. (°F)	WIND		REMARKS	
	LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION		TOTAL								DIREC- TION	SPEED (kts)		CHARAC- TER AND SHIFTS
	AMT.	TYPE & HGT	AMT.	TYPE & HGT	AMT.	TYPE & HGT	AMT.	TYPE & HGT	AMT.	TYPE & HGT										
0355	0		0		0		0		0		0	15		162	58	42	S	8		
0455	3	ci	/	0	3	0	3	0	3	1	3	15		165	58	43	S	10		
0555	9	ci	/	0	9	0	9	0	9	1	9	15		172	58	46	ESE	4		
0655	10	ci	/	0	10	0	10	0	10	3	10	15		172	62	47	S	7		
0755	10	ci	/	0	10	0	10	0	10	3	10	15		175	68	50	S	7		
0855	10	Ac	E120	0						10		15		175	69	50	SSW	8		
0955	10	Ac	E120	0						10		15		178	69	50	S	8		
1055	10	Ac	E120	0						10		15		175	71	49	S	8		
1155	10	Ac	E120	0	10	0				10	8	15		172	75	52	SSE	8		
1255	7	Ac	E120	0	7	0				7	6	15		170	75	52	S	10		
1355	10	As	E120	0						10		15		165	75	49	SSE	10		
1455	10	Ac	A95	0						10		15		162	73	48	SE	10		

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS
 DATE 6 JUNE 1964 EXPERIMENT NO. 22 TRACER RELEASE FROM 1130 TO 1230 CST

TIME (CST)	CLOUDS AND OBSCURING PHENOMENA				CLOUDS AND OBSCURING PHENOMENA				TOTAL SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP. (°F)	DEW PT. (°F)	WIND		REMARKS
	LOWEST LAYER	SECOND LAYER	THIRD LAYER	SUMMA-TION	LOWEST LAYER	SECOND LAYER	THIRD LAYER	SUMMA-TION							DIREC-TION	SPEED (kts)	
	AMT	TYPE & DIR	HEIGHT	AMT	TYPE & DIR	HEIGHT	AMT	TYPE & DIR	HEIGHT	TOTAL							
0455	10	7 Ac	E70	3 Ac	100	10	u			10	8	131	64	64	S	6	BINOV
0555	10	7 Ac	B70	3 Ac	100	10	u			10	7	137	64	64	SSW	4	
0655	10	10 Ac	E80	u			u			10	10	137	67	64	SSW	6	BINOV
0755	9	9 Ac	E80	0			0			9	10	137	68	64	SW	7	
0855	9	9 Ac	E80	0			0			9	10	137	69	64	SW	9	
0955	1	1 Ac	80	0			0			1	12	137	73	67	S	6	
1055	2	0 Cu	40	2 Ac	80	2	0			2	12	132	77	69	SSW	7	CU FRMG
1155	9	6 Cu [†]	E38	1 Ac [†]	100	7	2 Ci	—		9	12	128	80	68	WSW	10	BLDG CU NE SW W
1255	10	6 Cu [†]	E38	0 Ac [†]	90	6	4 Ci	—		10	12	121	80	67	S	9	ØVØ BINOV TWRG CU W-N-E
1355	10	1 Cu	35	6 Cu	E40	7	3 Ci	—		10	12	114	81	66	SW	10	BINOV
1455	8	6 Cu [†]	E40	2 Ci [†]	—	8	0			8	15	112	81	67	SW	12	TCU ALQDS
1555	7	4 Cu [†]	40	3 Ci [†]	U	7	0			7	15	109	81	65	SW	13	TCU ALQDS

DATE 7 JUNE 1964 EXPERIMENT NO. 23 TRACER RELEASE FROM 1130 TO 1230 CST

TIME (CST)	CLOUDS AND OBSCURING PHENOMENA				CLOUDS AND OBSCURING PHENOMENA				TOTAL SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP. (°F)	DEW PT. (°F)	WIND		REMARKS
	LOWEST LAYER	SECOND LAYER	THIRD LAYER	SUMMA-TION	LOWEST LAYER	SECOND LAYER	THIRD LAYER	SUMMA-TION							DIREC-TION	SPEED (kts)	
	AMT	TYPE & DIR	HEIGHT	AMT	TYPE & DIR	HEIGHT	AMT	TYPE & DIR	HEIGHT	TOTAL							
0455	0	0 Ci	—	0			0			0	7	109	66	65	SSW	5	FEW CI
0555	0	0 Ci	—	0			0			0	8	109	69	66	S	5	FEW CI
0655	7	7 Ci	—	0			0			7	8	109	71	67	SW	8	
0755	10	10 Ci	—	0			0			10	8	110	75	68	SSW	8	
0855	7	0 Ac	100	7 Ci			0			7	10	111	78	68	WSW	11	
0955	10	0 Cu	40	0 Ac	100	0	10 Ci	—		10	10	108	80	68	WSW	8	CU FRMG AC NW
1055	10	1 Cu	40	2 Ac	100	3	7 Ci	—		10	10	110	81	67	WSW	10	G15
1155	10	9 Cu	E32	0 Ac	100	9	1 Ci	—		10	12	110	81	67	S	10	BINOV
1255	10	2 Cu	35	4 Ac	E100	6	4 Ci	—		10	12	103	80	66	WSW	12	THIN SPOTS IN OVC
1355	10	1 Cu	30	1 Ac	80	2	8 Cs	U		10	12	101	82	67	WSW	9	
1455	10	3 Cu	30	2 Ac	80	5	5 Cs	U		10	12	098	82	68	S	8	
1555	10	3 Cu	30	3 Ac	E80	6	4 Cs	—		10	12	088	82	69	SW	5	

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS
 DATE 9 JUNE 1964 EXPERIMENT NO. 24 TRACER RELEASE FROM 1030 TO 1130 CST

TIME (CST)	TOTAL SKY COVER	CLOUDS AND OBSCURING PHENOMENA										TOTAL OPACU- ITY SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP (°F)	DEW PT. (°F)	WIND		REMARKS
		LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION TOTAL	DIREC- TION	SPEED (kts)	CHARAC- TER AND SHIFTS									
		AMT.	HEIGHT DIR.	AMT.	TYPE & DIR.	AMT.	TYPE & DIR.											AMT.	HEIGHT DIR.	
0355	0	0		0		0		0			0	0		042	77	67	SSW	15		
0455	0	0		0		0		0			0	0	12	042	76	67	SSW	18	G 28	
0555	0	0		0		0		0			0	0	12	047	76	67	SW	11		
0655	0	0		0		0		0			0	0	12	058	76	68	SSW	11		
0755	0	0		0		0		0			0	0	12	058	78	69	SSW	13		
0855	0	0		0		0		0			0	0	12	054	80	69	SSW	12	G 20	
0955	0	0		0		0		0			0	0	12	054	82	70	SW	13	G 20	
1055	0	0		0		0		0			0	0	12	054	85	71	SW	12	G 18	
1155	1	1	Cu	30	0	1		1	0		1	1	12	054	86	71	SSW	13	G 21	
1255	6	6	Cu	E 30	0	6		6	0		6	6	12	054	87	72	WSW	15	G 27	
1355	7	7	Cu	E 30	0	7		7	0		7	7	12	054	87	72	SW	17	G 28	
1455	6	2	Cu	35	4	Sc	E 50	6	0		6	6	15	058	88	74	SW	15	G 25	

DATE 10 JUNE 1964 EXPERIMENT NO. 25 TRACER RELEASE FROM 1033 TO 1133 CST

TIME (GST)	TOTAL SKY COVER	CLOUDS AND OBSCURING PHENOMENA										TOTAL OPAQUE SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP (°F)	DEW PT. (°F)	WIND		CHARAC- TER AND SHIFTS	REMARKS
		LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION		DIREC- TION	SPEED (kts)										
		AMT.	HEIGHT	TYPE & DIR.	AMT.	HEIGHT	TYPE & DIR.	AMT.	HEIGHT									TOTAL	TOTAL		
0355	7	4	Sc	30	3	Cs	U		7	0		7	15		128	69	59	NW	7		
0455	7	7	Cs	U	0				7	0		7	15		136	67	60	NW	6		
0555	7	7	Cs	U	0				7	0		7	15		146	70	60	N	8		
0655	10	10	ci	/	0				10	0		10	4	15	153	70	60	N	8		
0755	8	8	ci	/	0				8	0		8	2	15	160	71	60	N	12		
0855	2	2	ci	/	0				2	0		2	1	15	163	72	62	N	6		
0955	0	0	ci	/	0				0	0		0	0	15	163	73	64	NNW	7	CI SE	
1055	0	0	ci	/	0				0	0		0	0	15	167	76	65	WNW	8	CI SE WND DIR VRBL	
1155	0	0	ci	/	0				0	0		0	0	15	167	78	64	NW	7	CI SE	
1255	0	0	ci	/	0				0	0		0	0	15	166	80	66	WNW	11	CI SE	
1355	0	0	ci	/	0				0	0		0	0	15	160	81	66	WNW	9	CI E-S	
1455	0	0	ci	/	0				0	0		0	0	15	160	82	66	NW	7	FEW CI	

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI

DATE11JUNE1964

(WBAS, LAMBERT FIELD)

EXPERIMENT NO.26

SURFACE WEATHER OBSERVATIONS

TRACER RELEASE FROM1035TO1135CST

TIME (CST)	TOTAL SKY COVER	CLOUDS AND OBSCURING PHENOMENA										TOTAL OPAQUE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP (°F)	DEW PT. (°F)	WIND		REMARKS	
		LOWEST LAYER		SECOND LAYER		SUMMA- TION		THIRD LAYER		SUMMA- TION							DIREC- TION	SPEED (kts)		CHARAC- TER AND SHIFTS
		AMT	HEIGHT OR DIR	AMT	HEIGHT OR DIR	TYPE & DIR	HEIGHT	AMT	HEIGHT OR DIR	TYPE & DIR	HEIGHT									
0355	7	7	ci	/	0					7	0			185	61	58	ENE	7		
0455	10	10	ci	/	0					10	0			188	60	57	ENE	8		
0555	10	10	cs	u	0					10	0			185	60	57	E	8		
0655	10	10	cs	u	0					10	0			189	61	58	SE	4		
0755	10	10	cs	u	0					10	0			189	65	59	E	8		
0855	10	1	Ac	100	9	cs	u	10	0	10	0			189	69	62	ESE	8	HAZE E	
0955	8	1	Ac	100	7	cs	u	8	0	8	0			179	70	63	E	9	HAZE E	
1055	8	2	Ac	100	6	cs	u	8	0	8	0			161	76	66	ESE	10	HAZE E	
1155	7	2	Ac	100	5	cs	u	7	0	7	0			167	81	68	SE	10	HAZE E	
1255	4	3	Ac	100	1	cc	/	4	0	4	0			164	82	69	S	12		
1355	7	7	ci	/	0			7	0	7	0			160	84	70	SE	7		
1455	8	3	Ac	140	5	ci	/	8	0	8	0			150	86	71	ESE	3		

DATE10OCTOBER1964

EXPERIMENT NO.27

TRACER RELEASE FROM1130TO1230CST

TIME (G.S.T)	CLOUDS AND OBSCURING PHENOMENA										TOTAL SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP (°F)	DEW PT. (°F)	WIND		REMARKS
	LOWEST LAYER		SECOND LAYER		SUMMA- TION		THIRD LAYER		SUMMA- TION										
	AMT.	HEIGHT DIR.	AMT.	HEIGHT DIR.	TYPE & DIR.	AMT.	HEIGHT DIR.	TYPE & DIR.	AMT.	HEIGHT DIR.									
0455	0		0		0		0		0		0	15		289	31	30		C	
0555	0	0	ci	/	0		0		0		0	15		293	30	30		C	FEW CI
0655	0	0	ci	/	0		0		0		0	12		297	29	29	NE	6	FEW CI
0755	2	2	ci	/	0		2		2		2	8		303	37	36	NE	4	
0855	3	3	ci	/	0		3		3		3	10		310	42	32	ENE	8	
0955	6	6	ci	/	0		6		6		6	15		310	47	31	ENE	5	
1055	8	8	ci	/	0		8		8		8	15		309	51	30	ENE	8	
1155	8	8	ci	/	0		8		8		8	15		299	53	30	NNE	10	
1255	8	8	ci	/	0		8		8		8	15		288	54	30	NNW	4	WND VRBL
1355	5	5	ci	/	0		5		5		5	15		281	55	27	NW	5	WND VRBL
1455	3	3	ci	/	0		3		3		3	15		278	57	27	NE	5	WND VRBL
1555	2	2	ci	/	0		2		2		2	15		275	55	25	E	4	WND LGT AND VRBL

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS
 DATE 11 OCTOBER 1964 EXPERIMENT NO. 28 TRACER RELEASE FROM 1105 TO 1205 CST

TIME (G.S.T)	TOTAL SKY COVER	CLOUDS AND OBSCURING PHENOMENA										TOTAL OPAQUE SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP. (°F)	DEW PT. (°F)	WIND		REMARKS
		LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION TOTAL	TOTAL											
		AMT.	HEIGHT DIR.	AMT.	HEIGHT DIR.	AMT.	HEIGHT DIR.													
0355	0	0		0		0		0		0	0	7		278	33	28		C		
0455	0	0			0		0		0	0	0	7		278	31	28		C		
0555	0	0			0		0		0	0	0	7		278	33	28		C		
0655	0	0			0		0		0	0	0	5	KH	280	30	28		C		
0755	0	0			0		0		0	0	0	5	KH	279	40	32	ESE	4		
0855	0	0			0		0		0	0	0	7		279	47	30	SSE	12		
0955	2	2	ci	/	0		2	0		2	0	7		271	52	30	SE	14		
1055	2	2	ci	/	0		2	0		2	0	10		264	55	30	SE	12		
1155	2	2	ci	/	0		2	0		2	0	10		250	57	30	SE	13		
1255	2	2	ci	/	0		2	0		2	0	15		240	60	30	SE	10		
1355	2	2	ci	/	0		2	0		2	0	15		230	61	28	SE	11		
1455	5	5	ci	/	0		5	0		5	0	15		221	62	27	SE	10		

DATE 12 OCTOBER 1964 EXPERIMENT NO. 29 TRACER RELEASE FROM 2000 TO 2100 CST

TIME (C.S.T.)	TOTAL SKY COVER	CLOUDS AND OBSCURING PHENOMENA										TOTAL OPAQUE SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP. (°F)	DEW TEMP. (°F)	WIND		REMARKS	
		LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION		DIREC- TION	SPEED (kts)										
		AMT.	HEIGHT DIR.	AMT.	HEIGHT DIR.	AMT.	HEIGHT DIR.	TOTAL	TOTAL												
1355	8	2	Ac 120	6	Cs	—	—	8	0	—	—	8	4	10		198	69	42	W	9	
1455	9	6	Ac 120	3	Cs	—	—	9	0	—	—	9	7	12		198	68	41	WNW	8	
1555	8	6	Ac 120	2	ci	—	—	8	0	—	—	8	6	15		198	66	43	NW	8	
1655	9	2	Ac 120	7	ci	—	—	9	0	—	—	9	4	15		202	62	45	NW	8	
1755	7	1	Ac 120	6	ci	—	—	7	0	—	—	7	2	15		206	57	46	NW	7	
1855	8	6	Ac 120	2	ci	—	—	8	0	—	—	8	6	15		210	55	46	NW	4	
1955	8	6	Ac 120	2	ci	—	—	8	0	—	—	8	6	15		213	56	47	NW	4	
2055	6	3	Ac 120	3	ci	—	—	6	0	—	—	6	3	15		217	54	47	NNE	4	
2155	6	3	Ac 120	3	ci	—	—	6	0	—	—	6	3	15		220	54	47		C	
2255	8	6	Ac 120	2	ci	—	—	8	0	—	—	8	6	15		219	53	46	NNE	3	
2355	10	5	Ac 120	5	Ac	—	—	10	0	—	—	10	10	15		215	55	46	ENE	3	

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS
 DATE 16 OCTOBER 1964 EXPERIMENT NO. 30 TRACER RELEASE FROM 2000 TO 2100 CST

TIME (CST)	CLOUDS AND OBSCURING PHENOMENA				SUMMA- TION TOTAL	THIRD LAYER		TOTAL OPAQUE SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP (°F)	DEW PT. (°F)	WIND		REMARKS
	LOWEST LAYER	SECOND LAYER	THIRD LAYER	THIRD LAYER		TYPE & DIR.	HEIGHT							DIREC- TION	SPEED (kts)	
1355	0	0	0	0	0			0	10		109	78	43	NNW	6	WND VRBL
1455	0	0	0	0	0			0	12		108	79	42	NW	3	WND VRBL
1555	0	0	0	0	0			0	12		107	78	40		C	
1655	0	0	0	0	0			0	12		108	74	40	E	3	
1755	0	0	0	0	0			0	12		112	71	42	SSE	3	WND VRBL
1855	0	0	0	0	0			0	12		114	59	46	SSE	3	
1955	0	0	0	0	0			0	12		110	56	49	WNW	3	
2055	0	0	0	0	0			0	12		111	57	46		C	
2155	0	0	0	0	0			0	12		111	55	48		C	
2255	0	0	0	0	0			0	7		114	54	46		C	
2355	0	0	0	0	0			0	7		114	51	44		C	

DATE 17 OCTOBER 1964 EXPERIMENT NO. 31 TRACER RELEASE FROM 1315 TO 1415 CST

TIME (CST)	CLOUDS AND OBSCURING PHENOMENA				SUMMA- TION TOTAL	THIRD LAYER		TOTAL OPAQUE SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP (°F)	DEW PT. (°F)	WIND		REMARKS
	LOWEST LAYER	SECOND LAYER	THIRD LAYER	THIRD LAYER		TYPE & DIR.	HEIGHT							DIREC- TION	SPEED (kts)	
0655	0	0	0	0	0			0	3	GF K	125	44	43	SSE	4	VSBY N 1 1/2
0755	0	0	0	0	0			0	3	GF K	130	53	48	ESE	3	VSBY N 1 1/2
0855	0	0	0	0	0			0	3	K	132	65	50	SE	6	
0955	0	0	0	0	0			0	5	K	128	72	50	SSW	6	
1055	0	0	0	0	0			0	7		125	78	49	SE	10	
1155	0	0	0	0	0			0	7		114	80	51	SSE	10	FEW AC N
1255	1	Ac	120	0	1			1	7		104	82	46	SE	10	
1355	4	4	—	0	4			4	7		090	83	45	SSE	7	
1455	4	4	—	0	4			4	7		090	84	45	SSE	11	
1555	6	6	—	0	6			6	10		083	82	47	SSE	12	
1655	6	6	—	0	6			6	12		084	77	47	SE	14	
1755	9	9	u	0	9			9	10		088	72	47	SE	8	

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS
DATE 19 OCTOBER 1964 EXPERIMENT NO. 32 TRACER RELEASE FROM 1945 TO 2045 CST

TIME (G.S.T.)	CLOUDS AND DBSCURING PHENOMENA										TOTAL SKY COVER	REMARKS						
	LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION TOTAL	TOTAL OPAQUE COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION			SEA LEVEL PRESS. (mb)	TEMP. (°F)	DEW PT. (°F)	WIND		CHARAC- TER AND SPEEDS
	AMT.	TYPE & HEIGHT DIR.	AMT.	TYPE & HEIGHT DIR.	AMT.	TYPE & HEIGHT DIR.										DIREC- TION	SPEED (kts)	
1255	1	Cu	65	0			1	0		1	15	225	55	22	WNW	18		
1355	1	Cu	65	0			1	0		1	15	218	56	21	WNW	18		
1455	4	Cu	65	0			4	0		4	15	213	56	20	WNW	14		
1555	7	Cu	R50	0			7	0		7	15	213	56	20	WNW	13	110-120	
1655	8	Sc	50	3	Ac	E80	6	2	Cs	8	15	219	52	22	NNW	10		
1755	10	Sc	R50	3	Ac	80	10	u		10	15	227	48	29	WNW	15	RB 29 E 34	
1855	10	Sc	E50	u				u		10	15	231	47	29	NNW	10		
1955	10	Sc	E50	u				u		10	15	237	45	30	WNW	7	BINOVC	
2055	10	Sc	E50	u				u		10	15	237	45	30	WNW	6	BINOVC	
2155	3	Sc	50	0			3	0		3	15	239	40	31	NW	9		
2255	1	Sc ^u	50	0			1	0		1	15	243	36	32	WNW	6		
2355	0	0		0			0	0		0	15	243	36	32	WNW	8		

DATE 20 OCTOBER 1964 EXPERIMENT NO. 33 TRACER RELEASE FROM 1915 TO 2015 CST

TIME (C.S.T.)	TOTAL SKY COVER		CLOUDS AND OBSCURING PHENOMENA										TOTAL OPAQUE SKT COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP. (°F)	DEW PT. (°F)	WIND		REMARKS	
	LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION		LATER		DIREC- TION	SPEED (kts)										
	AMT.	TYPE & DIR.	HEIGHT	AMT.	TYPE & DIR.	HEIGHT	AMT.	TYPE & DIR.	AMT.	HEIGHT												
1255	7	7	Ac	E80	0			7	0			7	7	15		206	51	24	W	10	G16	PRESFR
1355	2	1	Ac	80	1	Ci	/	2	0			2	1	15		195	55	23	WSW	12	G18	
1455	1	1	Ci	/	0			1	0			1	0	15		178	56	23	SSW	12		
1555	1	1	Ci	/	0			1	0			1	0	15		167	57	20	SW	14		
1655	1	1	Ci	/	0			1	0			1	0	15		161	56	20	WSW	12		
1755	1	1	Ci	/	0			1	0			1	0	15		161	53	20	SSW	7		
1855	1	1	Ci	/	0			1	0			1	0	15		157	51	22	S	10		
1955	4	4	Ci	/	0			4	0			4	1	15		150	53	20	S	11		
2055	0	0			0			0	0			0	0	15		143	50	21	SSW	8		
2155	0	0			0			0	0			0	0	15		135	51	21	SSW	8		
2255	0	0			0			0	0			0	0	15		120	53	22	WSW	15	G20	
2355	0	0	Ci	/	0			0	0			0	0	15		110	54	24	WSW	12		FEW CI

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS
DATE 21 OCTOBER 1964 EXPERIMENT NO. 34 TRACER RELEASE FROM 1920 TO 2020 CST

TIME (CST)	CLOUDS AND OBSCURING PHENOMENA										TOTAL OPAQUE SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mbs)	TEMP (°F)	DEW PT. (°F)	WIND		REMARKS
	LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION TOTAL	SUMMA- TION TOTAL	DIREC- TION	SPEED (kts)							CHARAC- TER AND SHIFTS		
	AMT.	HEIGHT	AMT.	HEIGHT	AMT.	HEIGHT													
1255	0		0		0		0		0	15+		126	73	36	NW	15			
1355	0		0		0		0		0	15+		126	74	33	WNW	18			
1455	0		0		0		0		0	15+		135	73	30	WNW	12	G 22		
1555	0		0		0		0		0	15+		135	72	27	WNW	14	G 24		
1655	0		0		0		0		0	15+		143	66	30	N	14			
1755	0		0		0		0		0	15+		158	60	28	NNW	11			
1855	0		0		0		0		0	15		168	57	28	N	11			
1955	0		0		0		0		0	15		178	53	29	N	5			
2055	0		0		0		0		0	15		189	50	28	N	7			
2155	0		0		0		0		0	15		198	47	27	NNE	7			
2255	0		0		0		0		0	15		206	46	27	NNE	3			
2355	0		0		0		0		0	15		209	44	28	N	3			

DATE 6 MARCH 1965 EXPERIMENT NO. 35 TRACER RELEASE FROM 1230 TO 1330 CST

TIME (G.S.T.)	CLOUDS AND OBSCURING PHENOMENA										TOTAL SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP. (°F)	DEW PT. (°F)	WIND		REMARKS	
	LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION TOTAL	CHARAC- TER AND SHIFTS												
	AMT.	HEIGHT	TYPE & DIR.	HEIGHT	AMT.	TYPE & DIR.			AMT.	DIREC- TION							SPEED (kts)			
0555	10	10	Sc	M15	u			u			10	10		081	32	28	NW	13	BIN OVC	
0655	10	10	Sc	M14	u			u			10	15		085	32	27	NW	13	CIG RGD THN SPOTS IN OVC	
0755	10	10	Sc	A12	u			u			10	15		098	32	27	WNW	16	⊕ 32	
0855	10	10	Sc	M12	u			u			10	7		101	33	26	NW	14	4 NE STL 16 ⊕	
0955	10	10	Sc	M14	u			u			10	7		105	32	26	NW	15		
1055	10	10	Sc	M13	u			u			10	7		112	33	26	NW	11		
1155	10	10	Sc	M14	u			u			10	8		112	33	26	WNW	16		
1255	10	10	Sc	M14	u			u			10	8		112	33	26	WNW	16		
1355	10	10	Sc	M14	u			u			10	10		115	33	26	WNW	12		
1455	10	10	Sc	M19	u			u			10	10		117	33	26	WNW	12		
1555	10	10	Sc	M20	u			u			10	10		120	33	26	WNW	11		
1655	10	10	Sc	M20	u			u			10	15		124	33	26	WNW	13		

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS
 DATE 7 MARCH 1965 EXPERIMENT NO. 36 TRACER RELEASE FROM 1230 TO 1330 CST

TIME (CST)	CLOUDS AND OBSCURING PHENOMENA										TOTAL SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP (°F)	DEW POINT (°F)	WIND		REMARKS
	LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION TOTAL	OEW SPEED (kts)	CHARAC- TER AND SHIFTS										
	AMT.	HEIGHT DIR	AMT.	HEIGHT DIR	AMT.	HEIGHT DIR													
0555	10	S ^W	W4	u				u		10	1	S - F	142	30	28	NNW	4		
0655	10	S	W4	u				u		10	1	S - F	146	30	27	NNW	7		
0755	10	S	W4	u				u		10	1	S - F	149	30	27	NW	7		
0855	10	St	M5	u				u		10	1	S - F	154	31	28	NNW	8		SUN DMLY VSBL
0955	10	St	M7	u				u		10	1 1/2	S - F	154	32	28	NW	8		
1055	10	7 St	M9	3	St	12	10	u		10	1 1/2	S - F	157	33	29	NNW	9		
1155	10	2 St	9	8	St	M15	10	u		10	4	S - - F	157	34	28	NNW	11		
1255	10	10 St	M16	u				u		10	5	S - - F	154	35	29	NW	7		
1355	10	10 St	M15	u				u		10	5	S - - F	154	35	29	NW	11		
1455	10	10 St	M15	u				u		10	3	S - F	156	34	29	NW	10		
1555	10	7 St	M15	3	Sc	30	10	u		10	4	S - F	160	34	29	NW	10		
1655	10	10 St	M17	u				u		10	10	S - -	164	34	28	NW	8		

DATE 8 MARCH 1965 EXPERIMENT NO. 37 TRACER RELEASE FROM 2030 TO 2130 CST

TIME (CST)	CLOUDS AND OBSCURING PHENOMENA				TOTAL SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS (mb)	TEMP (°F)	DEW PT. (°F)	WIND		REMARKS
	LOWEST LAYER	SECOND LAYER	THIRD LAYER	SUMMA-TION							DIR	SPEED (kts)	
	AMT.	TYPE & DIR	AMT.	TYPE & DIR	AMT.	TYPE & DIR	AMT.	TYPE & DIR	TYPE & DIR	TYPE & DIR	TYPE & DIR	TYPE & DIR	TYPE & DIR
1355	6	6 Ci	u	0	6	0	6	0	0	0	S	13	PRESFR
1455	6	6 Ci	u	0	6	0	6	0	0	0	SW	10	
1555	10	2 Sc	30	6	Ac	E70	8	2	Ci	10	W	12	
1655	10	8 Ac	E70	2	Ci	10	u	u	u	u	WNW	18	G25
1755	10	8 Sc	M50	2	Ac	80	10	u	u	u	WNW	18	
1855	10	10 Sc	M28	u	u	u	10	15	124	37	29 WNW	12	RB40 E45
1955	10	4 Sc	28	6	Ac	M60	10	u	u	u	WNW	12	
2055	10	10 Sc	M60	u	u	u	10	15	124	36	28 WNW	12	
2155	4	2 Sc	30	2	Ac	60	4	0	126	35	28 WNW	15	
2255	2	2 Sc	60	0	0	0	2	0	129	33	27 WNW	12	
2355	2	2 Sc	60	0	0	0	2	0	135	32	24 WNW	10	

DATE 13 MARCH 1965
EXPERIMENT NO 39
TRACER RELEASE FROM 1220 TO 1320 CST

TIME (G.S.T.)	TOTAL SKY COVER	CLOUDS AND OBSCURING PHENOMENA										WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP. (°F)	OEW TEMP. (°F)	WIND		REMARKS
		LOWEST LAYER		SECOND LAYER		SUMMA- TION		THIRD LAYER		SUMMA- TION						OIREC- TION	SPEED (kts)	
		AMT.	HEIGHT DIR.	AMT.	HEIGHT DIR.	TYPE	AMT.	TYPE	AMT.	TYPE	AMT.							
0555	6	6	ci	/	0			6	0			GFHK	227	25	22		C	
0655	10	10	ci	/	0			10	0			GFHK	227	26	24		C	
0755	10	10	ci	/	0			10	0			GFHK	234	29	24	W	3	
0855	10	10	ci	/	0			10	0			HK	240	33	25		C	
0955	10	10	ci	/	0			10	0			HK	239	37	23	WSW	4	
1055	10	10	ci	/	0			10	0			HK	239	41	24	W	4	
1155	8	8	ci	/	0			8	0			HK	232	41	24	WNW	7	
1255	0	0	ci	/	0			0	0				218	45	23	S	5	FEW CI WND LGT AND VRBL
1355	0	0	ci	/	0			0	0				204	47	22	W	4	FEW CI WND LGT AND VRBL
1455	0	0			0			0	0				194	48	19	WSW	7	
1555	0	0			0			0	0				189	49	16	SW	5	
1655	0	0			0			0	0				183	49	16	S	4	

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD) SURFACE WEATHER OBSERVATIONS
 DATE 14 MARCH 1965 EXPERIMENT NO. 40 TRACER RELEASE FROM 1100 TO 1200 CST

TIME (CST)	CLOUDS AND DISCURING PHENOMENA										TOTAL OPAQUE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP. (°F)	DEW PT. (°F)	WIND		REMARKS	
	LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION TOTAL	SUMMA- TION TOTAL	SPEED (kts)	CHARAC- TER AND SHIFTS									
	AMT.	TYPE & DIR	AMT.	TYPE & DIR	AMT.	TYPE & DIR													
0455	10	Sc	M28	u			u			10	7	R-	121	40	30	NW	15	G22	FROPA
0555	10	Sc	4	7	Sf	M12	u			10	2 1/2	R-- F	133	34	32	WNW	6		SBOOE40
0655	10	Sc	4	3	Sf	M7	6	4	Sc	25	4	F	148	34	32	NW	12		RE 15
0755	10	Sc	13	6	Sc	M20	10	u		10	15		155	34	30	NW	18		
0855	10	Sc	M21	u				u		10	15		166	34	28	NW	17		
0955	9	Sc	M23	0			9	0		9	15		166	39	29	NW	14		
1055	8	Sc	M23	0			8	0		8	15		167	41	29	WNW	14		
1155	8	Sc	M24	0			8	0		8	15		167	44	26	NW	20		
1255	8	Sc	E25	0			8	0		8	15		164	44	24	WNW	17		
1355	7	Sc	A39	0			7	0		7	15		160	48	24	WNW	16		Ø 54
1455	7	Sc	M44	0			7	0		7	15		160	49	25	NW	13		

DATE 15 MARCH 1965 EXPERIMENT NO. 41 TRACER RELEASE FROM 2050 TO 2150 CST

TIME (C.S.T.)	CLOUDS AND DISCURING PHENOMENA											TOTAL SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP. (°F)	DEW TEMP. (°F)	WIND		REMARKS
	LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION		SUMMA- TION		OIREC- TION							SPEED (kts)	CHARAC- TER AND SHIFTS	
	AMT.	TYPE B DIR.	AMT.	TYPE B DIR.	AMT.	TYPE B DIR.	AMT.	HEIGHT	AMT.	HEIGHT										
1355	3	Ac	80	0				3	0			3	15		174	56	31	WSW	10	
1455	10	Ac	80	6		—		10	0			10	15		174	60	38	WNW	13	
1555	8	Ac	80	4		—		8	0			8	15		174	57	29	WNW	10	
1655	8	Ac	100	5		—		8	0			8	15		178	57	29	NW	12	
1755	7	Ac	100	4		—		7	0			7	15		185	51	28	NW	8	
1855	8	Ci	—	0				8	0			8	15		190	47	23	NW	7	
1955	9	Ac	120	8		—		9	0			9	15		192	47	27	NW	6	
2055	4	Ac	120	1		—		4	0			4	15		192	45	26		C	
2155	3	Ac	120	0				3	0			3	15		196	40	26		C	
2255	1	Ac	120	0				1	0			1	15		196	34	27	NNE	4	
2355	3	Ac	120	0				3	0			3	15		196	34	27	NNE	3	

Table 13 (continued). SURFACE WEATHER OBSERVATIONS, ST. LOUIS, MISSOURI (WBAS, LAMBERT FIELD)

ST LOUIS, MISSOURI (WBAS, LAMBERT FIELD)
DATE 16 MARCH 1965 EXPERIMENT NO. 42 SURFACE WEATHER OBSERVATIONS
TRACER RELEASE FROM 2030 TO 2130 CST

TIME (G.S.T.)	CLOUDS AND OBSCURING PHENOMENA										TOTAL SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS (mb)	TEMP (°F)	DEW PT. (°F)	WIND		REMARKS
	LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION		TOTAL	DIREC- TION							SPEED (kts)	CHARAC- TER AND SHIFTS	
	AMT.	TYPE & DIR.	AMT.	TYPE & DIR.	AMT.	TYPE & DIR.	AMT.	TYPE & DIR.											
1355	1	ci	/		0			1	0	1	15		140	66	36	SE	13		
1455	8	ci	/		0			8	0	8	15		130	68	36	SE	15		
1555	10	ci	/		0			10	0	10	15		118	66	33	SE	16	G 21	
1655	10	ci	/		u				u		15		103	64	33	SE	16	G 23	
1755	10	9	Ac	8130	1	ci	/	10	u	10	15		105	61	39	ESE	13	G 20	
1855	10	7	Ac	M80	3	Ac	130	10	u	10	15		087	60	35	ESE	15		
1955	10	7	Ac	M70	3	Ac	100	10	u	10	12	RW--	076	59	31	ESE	13	RB 50	
2055	10	8	Sc	M50	2	Ac	80	10	u	10	10	RW-	054	55	42	ESE	16	PRESFR OCNC LTGIC NW	
2155	10	8	Sc	M36	2	Sc	50	10	u	10	10	RW--	043	54	43	ESE	15		
2255	10	4	Sc	36	6	Ac	M80	10	u	10	10		018	56	43	SE	16	PRESFR RE40	
2355	10	4	Sc	40	6	Ac	M70	10	u	10	10		006	57	44	SSE	17	G 28	

DATE 17 MARCH 1965 EXPERIMENT NO. 43 TRACER RELEASE FROM 2000 TO 2100 CST

TIME (GST)	CLOUDS AND OBSCURING PHENOMENA										TOTAL OPAQUE SKY COVER	SURFACE VISIBILITY (miles)	WEATHER AND OBSTRUCTIONS TO VISION	SEA LEVEL PRESS. (mb)	TEMP (°F)	DEW PT. (°F)	WIND			REMARKS
	LOWEST LAYER		SECOND LAYER		THIRD LAYER		SUMMA- TION		SUMMA- TION SKY TOTAL	DIREC- TION							SPEED (kts)	CHARAC- TER AND SHIFTS		
	AMT.	TYPE & DIR.	AMT.	TYPE & DIR.	AMT.	TYPE & DIR.	AMT.	TYPE & DIR.												
1355	10	Sc	M 23	u					u		10	10		993	44	33	W	24	G 38	
1455	10	Sc	M 26	u					u		10	10		015	42	31	WNW	22	G 34	PRESRR
1555	10	Sc	M 26	u					u		10	10		021	42	30	WNW	24	G 36	⊕ 40 CLR ABV
1655	10	Sc	M 27	u					u		10	10		039	39	28	WNW	18	G 35	
1755	10	Sc	M 28	u					u		10	15		067	37	25	WNW	22	G 40	PRESRR
1855	10	Sc	M 27	u					u		10	15		080	34	22	W	24	G 43	
1955	8	Sc	M 28	o				8	o		8	15		098	32	20	WNW	22	G 37	
2055	8	Sc	M 30	o				8	o		8	15		113	29	18	WNW	21	G 36	
2155	5	Sc	30	o				5	o		5	15		126	28	17	WNW	20	G 34	
2255	7	Sc	M 28	o				7	o		7	15		133	26	16	W	15	G 25	
2355	6	Sc	M 28	o				6	o		6	15		140	25	15	WNW	17	G 22	

METEOROLOGICAL MEASUREMENTS AT OUTLYING STATIONS

Data on surface-wind velocity, temperature, and relative humidity are given in Tables 14 through 16 for the outlying meteorological stations in St. Louis. The nominal period of record is from 1 hour before the beginning of each tracer release to 1-1/2 hours after each ending for the daytime experiments, and to 2 hours after each ending for the evening experiments. Data collected at Missouri State Police Station C, Lindbergh High School, and Hazelwood High School are listed respectively in Tables 14, 15, and 16.

Each table presents 10-minute averages of surface wind direction and speed; the first, third, and fifth largest ranges of wind direction and speed over each 30-minute interval; and hourly averages of temperature and relative humidity. Times (in CST) specify the termination of the sampling intervals. Wind direction ranges less than 4 degrees and wind speed ranges less than 2 miles per hour are not listed, since these values approach the accuracies of the respective estimations.

TABLE 14. METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

Symbols

D(deg): Surface wind direction in whole degrees of azimuth

S(mph): Surface wind speed in whole miles per hour

Direction Range 1, 3, and 5: The first, third, and fifth highest wind direction ranges in whole degrees of azimuth

Speed Range 1, 3, and 5: The first, third, and fifth highest wind speed ranges in whole miles per hour

T(°F) : Temperature in whole degrees Fahrenheit

RH(%) : Relative humidity in whole percent

C : Calm - Wind speed less than threshold speed of the instrument

- : Missing Data; for wind direction ranges, data either missing or undefined.

Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

27 May 1963			Experiment No. 2					Tracer Release From: 1410 to 1440					19 July 1963					Experiment No. 4					Tracer Release from 1130 to 1230 CST						
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	T(°F)	RH(%)	1	3	5	1	3	5	S(mph)	D(deg)	Time (CST)	Direction	Range	Speed	T(°F)	RH(%)	1	3	5	1	3	5		
13:30	300	15												13	240	11:00											89	57	
40	308	12												15	222	10													
50	310	15												12	236	20													
14:00	300	13	126	88	72	14	11	10	77	64				13	238	30	108	10	86	16	14	12							
10	315	14												12	250	40													
20	320	14												13	235	50													
30	308	12	100	72	70	16	12	12						13	232	12:00	132	120	103	18	15	13	91	54					
40	305	10												14	242	10													
50	302	14												15	242	20													
15:00	305	11	125	98	75	20	14	12	77	64				15	238	30	110	85	73	18	15	12							
10	298	12												16	240	40													
20	298	10													50	240													
30	300	8	108	75	71	14	10	10						15	230	13:00	100	90	75	21	15	13	93	50					
40	308	14												14	232	10													
50	290	10												16	242	20													
16:00	298	8	110	85	70	18	12	10	76	66					230	30	110	90	78	18	15	12						94	47
																14:00													

28 May 1963			Experiment No. 3					Tracer Release from 1000 to 1100 CST					22 July 1963					Experiment No. 5					Tracer Release from 1104 to 1204 CST				
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	T(°F)	RH(%)	1	3	5	1	3	5	S(mph)	D(deg)	Time (CST)	Direction	Range	Speed	T(°F)	RH(%)	1	3	5	1	3	5
9:30	298	13												10	218	10:30											
40	300	14												9	208	40											
50	295	14												11	218	50											
10:00	308	14	88	80	63	15	14	10	69	70				11	212	11:00	100	82	70	14	10	9	85	53			
10	304	15												11	196	10											
20	302	14												12	200	20											
30	298	14	95	80	58	15	13	11						11	192	30	92	60	52	11	8	7					
40	308	14												10	182	40											
50	292	12												12	203	50											
11:00	294	12	178	115	90	21	15	13	72	66				11	195	12:00	103	75	62	14	10	9	86	50			
10	280	11												10	203	10											
20	293	13												12	193	20											
30	288	12	142	96	82	19	14	12						10	208	30	100	88	80	14	9	6					
40	296	11												15	220	40											
50	296	12												10	208	50											
12:00	302	13	128	103	82	17	15	11	72	67				8	215	13:00	120	94	80	15	10	8	87	52			

Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

23 July 1963										26 July 1963										Tracer Release from 1045 to 1145 CST									
Experiment No. 6										Experiment No. 8																			
Tracer Release from 1130 to 1230 CST										Tracer Release from 1045 to 1145 CST																			
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)		Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)		Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)	
11:00	140	10	1	3	5		85	59		10:10	165	13	1	3	5					10:10	165	13	1	3	5				
11:00	140	12								10:20	160	14								10:20	160	14							
11:00	158	10								10:30	170	15								10:30	170	15							
11:00	155	10	102	88	75	12	10	8		10:40	176	15	115	98	74	17	13	10		10:40	176	15	115	98	74	17	13	10	
11:00	152	10								10:50	168	16								10:50	168	16							
11:00	156	9								11:00	175	17								11:00	175	17							
12:00	158	9	105	85	73	10	8	6	56	11:10	184	17	98	76	68	15	12	10	79	11:10	184	17	98	76	68	15	12	10	
12:00	160	10								11:20	182	16								11:20	182	16							
12:00	130	7								11:30	158	14								11:30	158	14							
12:00	132	10	138	118	82	13	8	6		11:40	158	14	110	88	74	14	12	10		11:40	158	14	110	88	74	14	12	10	
12:00	130	8								11:50	165	14								11:50	165	14							
12:00	133	9								12:00	180	15								12:00	180	15							
13:00	143	9	123	100	83	12	8	6	54	12:10	180	15	105	90	63	18	13	10	80	12:10	180	15	105	90	63	18	13	10	
13:00	136	8								12:20	180	15								12:20	180	15							
13:00	125	8								12:30	180	16								12:30	180	16							
13:00	122	8	128	94	80	10	8	6		12:40	180	14	63	60	52	14	12	10		12:40	180	14	63	60	52	14	12	10	
14:00							88	51		13:00									82	13:00									56

25 July 1963										12 September 1963										Tracer Release from 1115 to 1215 CST									
Experiment No. 7										Experiment No. 9																			
Tracer Release from 1040 to 1140 CST										Tracer Release from 1115 to 1215 CST																			
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)		Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)		Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)	
10:10	150	11	1	3	5					10:50	332	10	1	3	5					10:50	332	10	1	3	5				
10:20	150	13								11:00	330	12								11:00	330	12							
10:30	155	13								11:10	334	12								11:10	334	12							
10:40	168	13	102	88	72	15	12	10		11:20	338	12	122	120	65	12	8	6		11:20	338	12	122	120	65	12	8	6	
10:50	172	14								11:30	008	11								11:30	008	11							
11:00	170	16					83	55		11:40	342	14	143	92	73	14	9	6		11:40	342	14	143	92	73	14	9	6	
11:10	175	15	82	72	62	14	11	10		11:50	342	11								11:50	342	11							
11:20	165	15								12:00	345	12								12:00	345	12							
11:30	155	13								12:10	330	12								12:10	330	12							
11:40	165	12	130	100	76	16	13	11		12:20	340	13	109	80	68	13	12	12		12:20	340	13	109	80	68	13	12	12	
11:50	158	14								12:30	322	11								12:30	322	11							
12:00	178	13					85	52		12:40	338	12	130	98	76	12	11	10		12:40	338	12	130	98	76	12	11	10	
12:10	183	14	142	122	85	14	11	9		12:50	348	10								12:50	348	10							
12:20	168	12								13:00	355	10								13:00	355	10							
12:30	160	12								13:10	338	10								13:10	338	10							
12:40	163	11	173	123	96	14	12	10		13:20	330	13	142	100	76	14	9	7		13:20	330	13	142	100	76	14	9	7	
13:00							85	49																					

14 September 1963				Experiment No. 10				Tracer Release from 1045 to 1145 CST				17 September 1963				Experiment No. 12				Tracer Release from 2000 to 2030 CST			
Time (CST)		D(deg)	S(mph)	Direction Range			Speed Range			T(°F)	RH(%)	Time (CST)		D(deg)	S(mph)	Direction Range			Speed Range			T(°F)	RH(%)
				1	3	5	1	3	5							1	3	5	1	3	5		
10:20	060		5									19:30	166	7									
30	080		5									40	160	7									
40	085		6									50	160	8									
50	085		5	200	122	100	10	8	6														
11:00	074		7							71	47	20:00	152	8	25	-	-	<2	<2	<2	70	73	
10	062		7									10	150	9									
20	085		7	176	133	108	12	8	6			20	150	10									
30	070		7									30	156	9	30	20	20	4	<2	<2			
40	072		8									40	160	8									
50	085		7	142	88	75	11	9	6			50	169	8									
12:00	112		8							73	44	21:00	162	8	22	20	16	<2	<2	<2	68	78	
10	098		9									10	160	8									
20	120		8	128	115	92	13	9	8			20	167	8									
30	105		9									30	170	9	28	20	20	<2	<2	<2			
40	132		8									40	180	9									
50	110		9	118	100	80	15	12	9			50	180	9									
13:00										74	43	22:00	182	7	32	30	28	5	<2	<2	65	82	
												10	192	6									
												20	198	6									
												30	193	6	10	-	-	5	<2	<2			
												23:00									63	88	
Time (CST)		D(deg)	S(mph)	Direction Range			Speed Range			T(°F)	RH(%)	Time (CST)		D(deg)	S(mph)	Direction Range			Speed Range			T(°F)	RH(%)
				1	3	5	1	3	5							1	3	5	1	3	5		
10:30	162		14									10:30	162	14									
40	160		12									40	160	12									
50	170		14									50	170	14									
11:00	172		14	122	113	93	16	14	12	78	50	11:00	172	14	122	113	93	16	14	12	78	50	
10	178		14									10	178	14									
20	178		14									20	178	14									
30	183		15	105	90	72	18	14	10			30	183	15	105	90	72	18	14	10			
40	170		13									40	170	13									
50	175		14									50	175	14									
12:00	178		12	105	86	70	17	12	10	81	45	12:00	178	12	105	86	70	17	12	10	81	45	
10	165		12									10	165	12									
20	180		13									20	180	13									
30	160		10	150	120	78	14	12	10			30	160	10	150	120	78	14	12	10			
40	173		12									40	173	12									
50	158		12									50	158	12									
13:00	145		12	156	118	90	17	12	9	83	42	13:00	145	12	156	118	90	17	12	9	83	42	

Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

18 September 1963				Experiment No. 13				Tracer Release from 2000 to 2100 CST				Experiment No. 14				Tracer Release from 1200 to 1300dCST			
Time (CST)	D(deg)	S(mph)	Direction Range			Speed Range			T(°F)	RH(%)									
			1	3	5	1	3	5											
19:30	90	8																	
40	90	9																	
50	90	9																	
20:00	90	9	<4	<4	<4	<2	<2	<2	56	99									
10	90	9																	
20	90	9																	
30	85	9	10	-	-	<2	<2	<2											
40	100	7																	
50	105	6																	
21:00	115	7	25	-	-	<2	<2	<2	57	99									
10	123	7																	
20	130	6																	
30	134	6	25	-	-	<2	<2	<2											
40	138	7																	
50	140	7																	
22:00	140	7	<4	<4	<4	<2	<2	<2	58	99									
10	190	6																	
20	220	12																	
30	220	12	50	30	30	<2	<2	<2											
40	220	10																	
50	210	8																	
23:00	215	8	45	30	30	<2	<2	<2	58	99									
<hr/>																			
6 April 1964				Experiment No. 15				Tracer Release from 2040 to 2140 CST				Experiment No. 15				Tracer Release from 2040 to 2140 CST			
Time (CST)	D(deg)	S(mph)	Direction Range			Speed Range			T(°F)	RH(%)									
			1	3	5	1	3	5											
20:10	205	11																	
20	203	8																	
30	260	9																	
40	235	12	152	122	100	18	14	12											
50	255	20																	
21:00	258	17																	
10	250	17	162	122	108	32	23	18	66	36									
20	230	16																	
30	242	14																	
40	258	19	110	90	75	17	13	11											
50	276	12																	
22:00	270	11																	
10	276	12	120	90	75	14	11	10	65	39									
20	275	10																	
30	270	10																	
40	267	9	120	72	63	10	10	9											
50	242	9																	
23:00	232	9																	
10	232	7	58	48	32	6	5	3	63	42									
20	245	6																	
30	280	5																	
40	242	5	150	118	45	6	5	3											
<hr/>																			
19:00				19:00				19:00				19:00				19:00			

Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

7 April 1964		Experiment No. 16		Tracer Release from 2048 to 2148 CST				8 April 1964		Experiment No. 17		Tracer Release from 2030 to 2130 CST					
Time (CST)	D(deg)	S(mph)	Direction Range		Speed Range		T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction Range		Speed Range		T(°F)	RH(%)
			1	3	5	1						3	5	1	3		
20:20	320	12							20:00	262	11						
30	325	16							10	265	11						
40	322	16							20	265	10						
50	328	19	80	68	52	18	15	12	30	262	10	93	72	63	9	8	6
									40	266	9						
									50	265	11						
21:00	332	20						58									
10	330	18					41		21:00	265	11	90	72	60	10	8	6
20	322	16	76	62	55	18	15	14	10	268	11						64
30	330	18							20	265	9						
40	328	17							30	260	9	100	80	68	9	7	6
50	330	15	65	60	48	16	14	13	40	268	8						
									50	270	8						
22:00	333	17						58									
10	335	19					40		22:00	266	9	100	80	72	9	6	5
20	333	19	101	73	57	18	15	14	10	270	10						66
30	336	16							20	270	8						
40	342	18							30	278	6	102	85	50	11	8	6
50	334	22	78	65	55	24	21	16	40	272	6						
									50	268	7						
23:00	335	24						60									
10	336	18					39		23:00	272	7	97	78	64	7	5	4
20	338	17	82	68	42	26	22	17	10	278	8						68
30	342	18							20	270	8						
40	335	19							30	275	7	62	48	36	5	4	3
50	328	18	102	68	55	20	17	15									
24:00	330	22					37	60	24:00							31	75

Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

[illegible]

Table 14 (continued). · METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

[illegible][illegible]

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Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

12 October 1964				Experiment No. 29				Tracer Release from 2000 to 2100 CST				16 October 1964				Experiment No. 30				Tracer Release from 2000 to 2100 CST			
Time (CST)	D(deg)	S(mph)	Direction	Speed	Range	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction	Speed	Range	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction	Speed	Range	T(°F)	RH(%)
19:30	002	6	1	3	5			19:30	178	8	1	3	5			19:30	178	8	1	3	5		
40	352	5						40	182	8						40	182	8					
50	352	5						50	186	9						50	186	9					
20:00	352	5	44	30	18		64	20:00	185	9	38	-	-	4	2	< 2	64	37					
10	350	6				57		10	192	8						10	192	8					
20	004	7						20	202	8						20	202	8					
30	002	6	35	15	12			30	198	8	38	< 4	< 4	2	2	< 2							
40	025	6						40	196	8						40	196	8					
50	040	6						50	200	9						50	200	9					
21:00	040	6	58	49	32		67	21:00	193	10	18	-	-	3	< 2	< 2	64	38					
10	042	7				56		10	192	11						10	192	11					
20	032	7						20	195	10						20	195	10					
30	032	6	62	52	41			30	202	10	29	-	-	2	< 2	< 2							
40	023	5						40	202	10						40	202	10					
50	032	7						50	196	12						50	196	12					
22:00	028	5	69	50	36		69	22:00	194	13	36	29	15	6	4	12	62	40					
10	030	5				55		10	195	14						10	195	14					
20	031	5						20	192	14						20	192	14					
30	027	5	62	45	35			30	194	14	15	-	-	4	2	< 2							
40	042	6						40	197	14						40	197	14					
50	054	5						50	204	11						50	204	11					
23:00	042	5	65	50	34		70	23:00	200	10	55	42	30	5	4	3	61	41					

Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

17 October 1964				Experiment No. 31				Tracer Release from 1315 to 1415 CST				20 October 1964				Experiment No. 33				Tracer Release from 1915 to 2015 CST			
Time (CST)	D(deg)	S(mph)	Direction Range			Speed Range	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction Range			Speed Range	T(°F)	RH(%)						
			1	3	5							1	3	5				1	3	5			
12:50	178	13																					
13:00	170	12					81	26	18:40	208	11												
13:10	166	12							50	204	11												
20	148	11	118	98	78	12 10 8																	
30	167	11																					
40	160	11																					
50	163	11	90	75	67	14 10 8		26	19:00	207	11				52	25							
14:00	173	13					82		10	208	11	62	45	38	6	5	5						
10	168	10							20	210	11												
20	170	10							30	210	12												
30	180	11							40	211	11	75	60	52	10	8	6						
40	183	11							50	212	12												
50	172	11	109	86	71	14 12 9																	
15:00	183	10					82		20:00	212	11				51	25							
10	163	11							10	212	11	80	66	56	14	10	8						
20	168	12	122	98	85	11 8 6		26	20	213	10												
									30	213	11												
									40	214	11	95	76	61	10	9	7						
									50	214	12												
16:00							82	28	21:00	221	12				51	25							
									10	222	13	98	80	61	14	10	9						
									20	225	14												
									30	225	14												
									40	226	15	103	81	59	16	12	10						
									50	227	14												
19 October 1964			Experiment No. 32				Tracer Release from 1945 to 2045 CST																
Time (CST)	D(deg)	S(mph)	Direction Range			Speed Range	T(°F)	RH(%)															
			1	3	5				1	3	5												
19:10	360	11																					
20	012	9																					
30	010	10																					
40	355	10	60	52	36	8 6 4																	
50	360	9																					
20:00	002	9					47	52															
10	355	9	60	48	35	6 5 4																	
20	350	8																					
30	343	8																					
40	348	8	55	45	35	5 4 3																	
50	347	7																					
21:00	352	7					46	56															
10	345	7	53	39	29	4 4 3																	
20	340	8																					
30	335	7																					
40	324	5	45	34	29	5 2 2																	
50	332	6																					
22:00	322	6					44	63															
10	315	7	28	17	8	2 2 2																	
20	316	8																					
30	326	8																					
40	332	8	45	27	18	3 2 2																	
23:00							40	70															

Table 14 (continued). · METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

[illegible]

Table 14 (continued). METEOROLOGICAL MEASUREMENTS, MISSOURI STATE POLICE STATION C

8 March 1965		Experiment No. 37			Tracer Release from 2030 to 2130 CST			11 March 1965			Experiment No. 38			Tracer Release from 2030 to 2130 CST		
Time (CST)	D(deg)	S(mph)	Direction 1 3 5	Range	Speed 1 3 5	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction 1 3 5	Range	Speed 1 3 5	T(°F)	RH(%)	
20:00	305	16				38	63	20:00	295	6				40	47	
10	308	16						10	298	6						
20	307	15						20	300	6						
30	312	15	70	55	45	13	10	30	308	7	15	-	<2	<2		
40	312	13						40	325	8						
50	312	13						50	332	7						
21:00	310	12	71	53	42	10	8	21:00	332	6	59	40	26	5	4	49
10	308	12						10	322	5						
20	305	14						20	338	5						
30	308	13	62	48	40	10	8	30	348	5	50	32	25	2	<2	
40	312	14						40	356	5						
50	315	16						50	360	6						
22:00	320	18	73	53	42	16	12	22:00	005	5	40	26	15	3	3	52
10	325	16						10	360	6						
20	326	15						20	356	5						
30	319	15	68	59	50	13	10	30	352	4	41	20	15	3	2	
40	318	12						40	340	5						
50	325	16						50	353	4						
23:00	325	13	78	62	49	18	12	23:00	360	4	42	19	16	3	3	56
10	320	12						10	002	3						
20	312	13						20	358	5						
30	318	14	81	65	52	13	11	30	006	4	39	18	14	2	2	
24:00																
						33	70							38	59	

[illegible]

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TABLE 15. METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

Symbols

D(deg): Surface wind direction in whole degrees of azimuth

S(mph): Surface wind speed in whole miles per hour

Direction Range 1, 3, and 5: The first, third, and fifth highest wind direction
in whole degrees of azimuth

Speed Range 1, 3, and 5: The first, third, and fifth highest wind speed ranges
in whole miles per hour

T(°F): Temperature in whole degrees Fahrenheit

RH(%): Relative humidity in whole percent

C : Calm - Wind speed less than threshold speed of the instrument

- : Missing Data; for wind direction ranges, data either missing or
Undefined.

v

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Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

[illegible][illegible]

14 September 1963			Experiment No. 10			Tracer Release from 1045 to 1145 CST		
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	T(°F)	RH(%)	
10:20	060	9	1	3	5			
30	145	6						
40	080	7						
50	074	6	228	199	162	8	5	
11:00	082	6				70	50	
10	100	6						
20	102	8	214	158	122	9	6	
30	066	7						
40	110	8						
50	112	8	195	133	102	9	6	
12:00	098	8				73	47	
10	088	9						
20	113	9	205	145	111	11	8	
30	110	9						
40	096	10						
50	105	9	212	158	138	16	11	
13:00						74	46	
16 September 1963 Experiment No. 11 Tracer Release from 1100 to 1200 CST								
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	T(°F)	RH(%)	
10:30	152	11						
40	155	12						
50	155	13						
11:00	152	13	190	132	112	16	13	
10	152	12				79	49	
20	160	12						
30	166	10	178	143	117	15	11	
40	140	10						
50	150	10						
12:00	156	11	225	152	118	14	11	
10	168	13				81	45	
20	162	11						
30	152	9	196	143	105	16	11	
40	140	11						
50	148	11						
13:00	168	9	172	144	120	15	12	
						10	83	
							43	

17 September 1963			Experiment No. 12			Tracer Release from 2000 to 2030 CST		
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	T(°F)	RH(%)	
19:30	142	6	1	3	5			
40	138	6						
50	140	6						
20:00	140	6	62	50	38	4	76	
10	150	7				70		
20	155	6						
30	150	5	65	48	36	4		
40	152	6						
50	152	7						
21:00	158	7	42	35	28	4	80	
10	158	7				70		
20	168	8						
30	172	9	52	42	30	4		
40	181	8						
50	187	7						
22:00	170	7	30	-	-	42	83	
10	212	5				68		
20	218	5						
30	212	5	43	30	26	42		
23:00						65	88	

Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

18 September 1963				Experiment No. 13			Tracer Release from 2000 to 2100 CST			1 April 1964			Experiment No. 14			Tracer Release from 1200 to 1300 CST						
Time (CST)	D(deg)	S(mph)	Direction Range			Speed Range			T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction Range			Speed Range			T(°F)	RH(%)	
			1	3	5	1	3	5						1	3	5						
19:30 40 50	055 060 070	4 4 4																				
20:00 10 20 30 40 50	090 110 140 140 110 122	5 6 7 7 7 6	50	-	-	2	<2	<2	56	99			16 17 16 16 18 16	214	162	128	19	16	14	51	42	
21:00 10 20 30 40 50	118 112 120 120 120 123	6 6 6 5 4 5	28	20	20	2	<2	<2	56	99			16 16 17 17 14 20	183	152	119	20	16	14	54	45	
22:00 10 20 30 40 50	185 220 226 230 245 238	6 7 6 5 5 4	105	-	-	2	<2	<2	57	99			16	160	122	90	18	15	13	55	44	
23:00	252	4	82	56	50	2	<2	<2	57	99	6 April 1964											
Time (CST)	D(deg)	S(mph)	Direction Range			Speed Range			T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction Range			Speed Range			T(°F)	RH(%)	
			1	3	5	1	3	5						1	3	5						
20:10 20 30 40 50	158 150 208 174 258	10 9 10 9 10																				
21:00 10 20 30 40 50	260 260 268 266 285 270	7 9 9 6 6 5																				
22:00 10 20 30 40 50	230 188 228 208 149 176	7 9 5 7 9 6	190	168	152	11	8	7	63	50			7 9 5 7 9 6	190	168	152	11	8	7			
23:00 10 20 30 40	140 140 132 162 183	7 6 8 6 7																				
24:00			170	155	120	7	6	6	61	56			7 6 8 6 7	170	155	120	7	6	6			
			150	130	108	3	2	2														
									59	65												

28%

Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

7 April 1964		Experiment No. 16			Tracer Release from 2018 to 2148 CST			8 April 1964		Experiment No. 17			Tracer Release from 2030 to 2130 CST						
Time (CST)	D(deg)	S(mph)	Direction Range		Speed Range		T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction Range		Speed Range		T(°F)	RH(%)		
			1	3	5	1						3	5	1	3			5	
20:20	308	8							20:00	255	4								
30	312	11							10	252	4								
40	310	11							20	255	4								
50	308	14	152	112	92	22	17	13	30	258	4	92	78	65	5	4			
									40	260	4								
21:00	318	13						59	50	260	6								
10	325	14																	
20	315	13	95	88	75	25	20	14	21:00	260	5	102	88	65	7	6	5	36	64
30	320	13							10	265	6								
40	318	13							20	263	6								
50	310	12	122	95	75	18	16	13	30	268	6	135	100	78	12	9	7		
									40	266	7								
22:00	314	13						59	50	264	6								
10	315	13																	
20	322	14	118	95	85	21	17	14	22:00	265	6	142	105	76	10	8	6	35	65
30	325	14							10	262	8								
40	322	16							20	265	10								
50	320	16	105	88	75	20	19	15	30	270	10	78	62	52	9	7	5		
									40	265	8								
23:00	320	17						60	50	266	9								
10	318	16																	
20	312	16	122	109	80	25	22	20	23:00	268	8	100	78	61	12	8	7	34	68
30	316	17							10	270	7								
40	318	14							20	268	7								
50	315	11	110	92	78	23	22	18	30	268	8	146	76	58	11	7	5		
24:00	315	15						60	24:00									33	71

Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

[illegible]

Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

4 June 1964		Experiment No. 21			Tracer Release from 1030 to 1130 CST			7 June 1964			Experiment No. 23			Tracer Release from 1132 to 1232 CST		
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	T(°F)	RH(%)	
10:00	165	6	1	3	5	68	54	11:00	208	10	1	3	5	81	57	
10:10	162	5						11:10	226	8						
10:20	157	6						11:20	245	9						
10:30	170	5	152	108	77			11:30	235	10	182	165	148	17	12	10
10:40	142	6						11:40	238	9						
10:50	162	6						11:50	252	8						
11:00	178	7	168	142	120	72	44	12:00	251	7	212	185	167	13	12	10
11:10	150	8						12:10	250	8						56
11:20	163	7						12:20	258	8						
11:30	155	8	152	115	92			12:30	238	7	255	142	123	14	11	9
11:40	156	7						12:40	245	7						
11:50	168	8						12:50	264	6						
12:00	150	7	178	138	75	73	40	13:00	275	5	240	191	165	12	10	7
12:10	148	7						13:10	270	7						58
12:20	140	8						13:20	258	7						
12:30	124	7	175	130	110			13:30	248	8	175	156	142	12	9	7
13:00						72	39	14:00						83	57	

6 June 1964		Experiment No. 22			Tracer Release from 1130 to 1230 CST			9 June 1964			Experiment No. 24			Tracer Release from 1030 to 1130 CST		
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	T(°F)	RH(%)	
11:00	188	8	1	3	5	75	63	10:00	215	15	1	3	5	82	64	
11:10	168	7						10:10	117	13						
11:20	162	9						10:20	218	16						
11:30	173	11	165	132	103			10:30	218	14	178	150	112	24	19	15
11:40	178	11						10:40	212	15						
11:50	176	10						10:50	221	13						
12:00	166	9	145	116	81	77	72	11:00	210	15	150	122	105	22	18	16
12:10	178	10						11:10	217	15						60
12:20	192	8						11:20	218	16						
12:30	191	7	134	106	88			11:30	210	15	182	129	108	20	17	15
12:40	216	7						11:40	202	17						
12:50	178	10						11:50	210	15						
13:00	163	9	207	156	118	78	66	12:00	204	17	134	120	94	16	14	86
13:10	186	5						12:10	210	18						59
13:20	222	5						12:20	221	11						
13:30	182	8	158	140	116			12:30	225	12	220	136	118	24	21	18
14:00						79	62	13:00						87	59	

Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

10 June 1964				Experiment No. 25				Tracer Release from 1033 to 1133 CST				10 October 1964				Experiment No. 27				Tracer Release from 1130 to 1230 CST			
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)				Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)			
10:00	312	7	1	3	5	1	75	62				11:00	047	6	1	3	5	1	51	46			
10	312	6										10	055	6									
20	346	6										20	040	5									
30	319	6	165	142	130	11	9	8				30	062	9	280	248	124	13	10	8			
40	310	4										40	063	8									
50	332	4										50	075	5									
11:00	318	5	252	195	152	9	6	6	78	58		12:00	100	7	175	142	122	13	9	6	53	41	
10	353	6										10	032	9									
20	344	5										20	030	7									
30	012	8	180	151	132	10	7	6				30	096	5	196	145	123	10	8	6			
40	008	6										40	358	5									
50	333	6										50	068	6									
12:00	312	7	232	168	148	11	8	6	79	56		13:00	090	4	205	167	135	10	7	5	55	39	
10	297	7										10	060	6									
20	302	7										20	342	6									
30	334	7	220	164	135	13	10	6				30	012	5	165	121	98	11	7	6			
13:00							81	52				14:00							56	38			
11 June 1964				Experiment No. 26				Tracer Release from 1035 to 1135 CST				11 October 1964				Experiment No. 28				Tracer Release from 1105 to 1205 CST			
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)				Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)			
10:00	95	8	1	3	5	1	76	64				10:30	160	12	1	3	5	1	3	5			
10	105	8										10	157	13									
20	102	12										10	158	11									
30	90	11	192	142	108	17	13	9				11	165	11	170	122	102	16	14	12	55	43	
40	93	13										11	161	9									
50	95	12										11	142	11									
11:00	102	11	200	139	110	18	15	11	78	62		11:00	153	11	235	189	142	15	13	10			
10	123	11										10	140	10									
20	150	8										10	135	12									
30	155	7	245	146	132	16	12	8				11:00	145	10	225	180	152	18	15	13	57	41	
40	178	6										12:00	130	12									
50	152	6										10	142	11	239	152	134	15	13	10			
12:00	140	5	185	156	132	10	7	5	80	60		12:00	162	11									
10	176	7										10	148	10									
20	180	9										10	163	10									
30	158	7	132	115	100	10	8	6				13:00	167	10	205	146	103	16	14	11	60	38	
13:00							83	58															

5.2%

Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

12 October 1964				Experiment No. 29		Tracer Release from 2000 to 2100 CST				16 October 1964				Experiment No. 30		Tracer Release from 2000 to 2100 CST					
Time (CST)	D(deg)	S(mph)	Direction			Speed Range			T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction			Speed Range			T(°F)	RH(%)
			1	3	5	1	3	5						1	3	5	1	3	5		
19:30	352	6									19:30	180	8								
40	332	7									40	178	8								
50	338	6									50	172	8								
20:00	341	6	71	55	42	4	3	2	56	77	20:00	171	8	16	-	-	2	<2	<2	64	48
10	358	7									10	180	8								
20	360	7									20	185	8								
30	360	7	49	36	25	3	2	2			30	196	8	34	-	-	2	<2	<2		
40	360	7									40	208	8								
50	030	6									50	216	8								
21:00	018	6	62	51	40	4	2	2	55	82	21:00	214	8	38	29	16	2	<2	<2	63	50
10	016	7									10	215	8								
20	014	7									20	203	8								
30	015	6	60	32	30	3	3	2			30	208	9	27	17	11	2	<2	<2		
40	348	6									40	205	9								
50	352	7									50	205	9								
22:00	350	7	65	55	47	4	3	2	54	84	22:00	206	8	30	19	12	2	<2	<2	60	54
10	012	7									10	200	9								
20	008	6									20	198	10								
30	002	6	48	36	30	3	2	<2			30	200	10	21	12	10	3	<2	<2		
40	018	7									40	210	9								
50	031	5									50	210	9								
23:00	035	5	50	39	26	3	2	2	53	90	23:00	195	9	32	20	15	2	<2	<2	59	56

Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

17 October 1964				Experiment No. 31				Tracer Release from 1315 to 1415 CST				20 October 1964				Experiment No. 33				Tracer Release from 1915 to 2015 CST			
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)				Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)			
12:50	160	14	1	3	5							18:40	200	10	1	3	5						
13:00	162	13					83	24				19:00	208	11						50	35		
13:10	190	15										19:00	208	11									
13:20	186	14	132	102	93	13	10	8				19:00	208	12	37	31	25	4	3	2			
13:30	168	14										19:10	212	12									
13:40	165	13										19:20	217	12									
13:50	160	13	137	99	86	15	13	10				19:30	213	13	71	62	52	7	6	4			
14:00	172	12					84	34				19:40	214	13									
14:10	188	15										20:00	210	13						50	36		
14:20	170	14	150	102	88	15	13	10				20:10	208	13	78	56	42	6	6	4			
14:30	178	14										20:20	207	15									
14:40	168	13										20:30	202	15									
14:50	162	13	112	83	68	14	12	10				20:40	204	15	49	42	33	7	6	4			
15:00	166	14					83	34				20:50	198	13									
15:10	150	13										21:00	200	12						48	37		
15:20	171	13	152	104	82	15	13	12				21:10	202	12	58	45	40	5	5	4			
16:00							82	36				21:20	200	13									
												21:30	198	13									
												21:40	205	12	80	62	48	8	6	5			
												21:50	201	12									

19 October 1964				Experiment No. 32				Tracer Release from 1945 to 2045 CST			
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)			
19:10	360	10	1	3	5						
19:20	335	9									
19:30	326	13									
19:40	313	11	133	106	82	15	11	8			
19:50	338	11									
20:00	352	10					48	53			
20:10	342	12	118	98	72	10	6	5			
20:20	343	11									
20:30	351	11									
20:40	343	13	116	88	72	12	8	7			
20:50	346	10									
21:00	340	11									
21:10	348	10	116	94	81	11	8	6			
21:20	348	8					47	58			
21:30	330	10									
21:40	328	10	105	78	62	8	5	4			
21:50	315	8									
22:00	313	10									
22:10	317	8	91	58	50	5	4	3			
22:20	319	9					45	66			
22:30	316	10									
22:40	315	10	68	48	35	5	3	2			
23:00							42	74			

Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

[illegible]

Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

8 March 1955			Experiment No. 37			Tracer Release from 2030 to 2130 CST			11 March 1955			Experiment No. 38			Tracer Release from 2030 to 2130 CST		
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	T(°F)	RH(%)		Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	T(°F)	RH(%)	
20:00	303	10	1	3	5	40	70		20:00	240	4	1	3	5	41	45	
10	298	14							10	242	5						
20	304	15							20	254	5						
30	300	12	134	70	55				30	272	4	40	-	5	42		
40	294	12							40	280	5						
50	296	10							50	290	5						
21:00	296	10	95	60	51	38	75		21:00	296	7	45	34	21	4	42	47
10	297	9							10	300	7						
20	298	9							20	308	7						
30	290	8	95	66	52				30	322	7	55	43	6	5	3	
40	293	8							40	338	6						
50	296	11							50	342	6						
22:00	295	10	110	89	72	30	70		22:00	345	6	82	60	52	4	3	48
10	305	11							10	345	6						
20	309	13							20	345	6						
30	306	14	93	70	52				30	341	5	91	64	52	5	4	3
40	306	14							40	353	5						
50	308	13							50	348	5						
23:00	310	15	102	65	50	30	70		23:00	346	6	65	32	22	5	4	39
10	310	13							10	352	5						
20	302	11							20	356	4						
30	300	12	96	78	62				30	354	5	72	40	25	4	3	
24:00						35	76		24:00								
															41	56	

Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

13 March 1965			Experiment No. 39			Tracer Release from 1220 to 1320 CST			15 March 1965			Experiment No. 41			Tracer Release from 2050 to 2150 CST		
Time (CST)	D(deg)	S(mph)	Direction Range	Speed Range	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction Range	Speed Range	T(°F)	RH(%)				
11:50	310	5	1 3 5	1 3 5			20:20	352	5	1 3 5	1 3 5						
12:00	292	5			43	32	30	358	5								
12:10	270	5					40	360	5								
12:20	328	5	290 245	9 6 5			50	003	4	46 26	4 2	<2					
12:30	340	6															
12:40	312	6					21:00	012	4			46	45				
12:50	322	6	248 215	10 8 5			10	015	6								
							20	002	5	27 16	3 2	<2					
13:00	282	8			46	26	30	008	5								
13:10	156	4					40	005	6								
13:20	302	6	319 284	10 9 7			50	009	7	18 10	6 3	<2					
13:30	254	4					22:00	012	7			45	50				
13:40	245	6					10	011	7								
13:50	270	5	276 234	8 7 6			20	018	6	30 16	3 2	<2					
					48	24	30	015	6								
14:00	178	4					40	015	7								
14:10	240	4					50	018	6	45 22	3 2	<2					
14:20	210	5	320 292	10 8 6			23:00	015	6			43	54				
							10	090	2								
							20	062	2	80 -	5	<2					
							30	005	3								
							40	015	6								
							50	035	5	33 22	4 4	<2					
							24:00					42	62				
14 March 1965			Experiment No. 40			Tracer Release from 1100 to 1200 CST											
Time (CST)	D(deg)	S(mph)	Direction Range	Speed Range	T(°F)	RH(%)											
10:30	315	16	1 3 5	1 3 5		<td colspan="3"></td> <td colspan="3"></td>											
10:40	306	13				<td colspan="3"></td> <td colspan="3"></td>											
10:50	318	13				<td colspan="3"></td> <td colspan="3"></td>											
11:00	320	14	130 116	96 17 14 11	41	46 <td colspan="3"></td> <td colspan="3"></td>											
11:10	300	12				<td colspan="3"></td> <td colspan="3"></td>											
11:20	314	13				<td colspan="3"></td> <td colspan="3"></td>											
11:30	328	15	153 132	105 20 16 14		<td colspan="3"></td> <td colspan="3"></td>											
11:40	329	14				<td colspan="3"></td> <td colspan="3"></td>											
11:50	312	14				<td colspan="3"></td> <td colspan="3"></td>											
12:00	313	14	182 108	84 20 16 13	44	36 <td colspan="3"></td> <td colspan="3"></td>											
12:10	307	18				<td colspan="3"></td> <td colspan="3"></td>											
12:20	309	16				<td colspan="3"></td> <td colspan="3"></td>											
12:30	315	16	162 130	109 27 19 16		<td colspan="3"></td> <td colspan="3"></td>											
12:40	325	16				<td colspan="3"></td> <td colspan="3"></td>											
12:50	314	18				<td colspan="3"></td> <td colspan="3"></td>											
13:00	308	16	126 108	88 16 18 16	46	36 <td colspan="3"></td> <td colspan="3"></td>											

Table 15 (continued). METEOROLOGICAL MEASUREMENTS, LINDBERGH HIGH SCHOOL

16 March 1965			Experiment No. 42			Tracer Release from 2030 to 2130 CST			17 March 1965			Experiment No. 43			Tracer Release from 2000 to 2100 CST		
Time (CST)	D(deg)	S(mph)	Direction	Speed	T(°F)	RH(%)			Time (CST)	D(deg)	S(mph)	Direction	Speed	T(°F)	RH(%)		
20:00	120	13	1	1	60	57			19:30	288	25	1	1	5			
10	123	11							40	292	24	3	3	5			
20	122	13							50	289	20						
30	123	12	122	140													
40	120	14							20:00	285	23	172	115	97	36	28	23
50	119	12							10	298	20						32
									20	295	19						
21:00	122	14	138	111	57	65			30	292	16	140	107	90	29	23	18
10	130	14							40	282	18						
20	140	15							50	290	24						
30	143	16	160	113					21:00	290	24	168	115	83	41	34	27
40	144	17							10	308	24						31
50	142	18							20	295	18						
									30	304	21	122	102	88	28	24	20
22:00	146	19	149	115	56	55			40	296	26						
10	142	19							50	296	22						
20	138	18															
30	132	19	129	114					22:00	298	24	148	105	88	28	25	21
40	135	21							10	300	23						27
50	142	20							20	296	19						
									30	290	17	112	92	78	20	17	13
23:00	145	21	125	108	57	73			40	285	19						
10	146	21							50	282	16						
20	146	18															
30	152	21	140	128					23:00	285	14	128	107	74	21	18	15
																	26
24:00					57	74											66

TABLE 16. METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

Symbols

- D(deg): Surface wind direction in whole degrees of azimuth
- S(mph): Surface wind speed in whole miles per hour
- Direction Range 1, 3, and 5: The first, third, and fifth highest wind direction ranges in whole degrees of azimuth
- Speed Range 1, 3, and 5: The first, third, and fifth highest wind speed ranges in whole miles per hour
- T(°F) : Temperature in whole degrees Fahrenheit
- RH(%) : Relative humidity in whole percent
- C : Calm - Wind speed less than threshold speed of the instrument
- : Missing Data; for wind direction ranges, data either missing or undefined.

Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

27 May 1963		Experiment No. 2				Tracer Release From 1410 to 1440 CST				Experiment No. 4				Tracer Release from 1130 to 1230 CST						
Time (CST)	D(deg)	S(mph)	Direction 1 3 5	Speed Range 1 3 5	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction 1 3 5	Speed Range 1 3 5	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction 1 3 5	Speed Range 1 3 5	T(°F)	RH(%)
13:30	325	12					11:00	223	14					11:00	223	14			90	55
40	325	10					10	232	15					10	232	15				
50	327	11					20	226	16					20	226	16				
14:00	308	15	105	76 63	18 15 14	70	30	223	16	82	65	60	17	14	12					
10	312	14					40	236	17					17						
20	312	13					50	228	17											
30	320	10	84	60 55	15 13 10		12:00	220	16	110	83	70	19	15	13	91	53			
40	300	11					10	228	17					17						
50	316	12					20	240	17					20	240	17				
15:00	295	12	100	122 82	18 15 12	72	30	248	19	115	92	80	20	17	13					
10	304	12					40	232	18					20						
20	308	14					50	235	20											
30	292	14	100	82 78	15 13 12		13:00	240	19	113	70	60	18	16	14	92	51			
40	295	12					10	235	17					17						
50	300	12					20	232	17					20	232	17				
16:00	306	13	108	73 64	15 12 11	73	30	222	19	112	95	78	20	16	12					
							14:00												94	47

28 May 1963		Experiment No. 3				Tracer Release from 1000 to 1100 CST				Experiment No. 5				Tracer Release from 1104 to 1204 CST							
Time (CST)	D(deg)	S(mph)	Direction 1 3 5	Speed Range 1 3 5	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction 1 3 5	Speed Range 1 3 5	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction 1 3 5	Speed Range 1 3 5	T(°F)	RH(%)	
9:30	298	16					10:30	195	12					11:00	210	13	83	72 63	12 10 9	85	48
40	295	15					40	200	14					10	216	12					
50	305	14					50	210	13					20	223	11					
10:00	295	12	78	62 58	15 13 12	65	11:00	210	13					30	208	10	100	88 78	10 8 7		
10	282	14					20	223	11					40	204	8					
20	292	14					30	208	10					50	183	11					
30	286	12	135	80 68	19 15 12		40	204	8												
40	292	11					50	183	11												
50	275	12					12:00	215	9	98	83	72	14	12	10	87	46				
11:00	290	12	130	79 65	14 10 10	68	10	186	10					10	186	10					
10	292	13					20	174	10					20	174	10					
20	305	13					30	160	8					30	160	8	210	115 90	15 12 10		
30	321	12	88	70 50	18 14 10		40	186	10					40	186	10					
40	304	13					50	150	10					50	150	10					
50	305	12																			
12:00	300	8	83	74 60	14 11 10	68	13:00	145	12	150	123	96	16	12	10	89	45				

Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

23 July 1963		Experiment No. 6			Tracer Release from 1130 to 1230 CST			26 July 1963		Experiment No. 8			Tracer Release from 1045 to 1145 CST				
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)
11:00	132	11	1	3	5		85	58	10:10	160	16	1	3	5			
10	135	9							20	166	17						
20	155	10							30	162	17						
30	128	12	135	102	86	15	10	9	40	170	19	90	75	60	16	13	10
40	147	10							50	170	19						
50	112	10							11:00	164	17					80	65
12:00	122	10	168	120	100	15	12	10	10	170	16	85	66	52	15	12	10
10	145	11					87	52	20	175	19						
20	125	11							30	182	17						
30	135	11	108	90	76	14	10	9	40	176	18	103	80	64	18	14	12
40	120	9							50	170	18						
50	125	9							12:00	165	19					81	59
13:00	140	8	120	103	88	14	10	9	10	172	17	92	68	53	18	14	12
10	120	8					88	48	20	170	17						
20	120	10							30	180	17						
30	90	12	112	92	80	15	12	10	40	170	18	102	82	64	20	15	12
14:00							88	46	13:00							83	53
25 July 1963		Experiment No. 7			Tracer Release from 1040 to 1140 CST			12 September 1963		Experiment No. 9			Tracer Release from 1115 to 1215 CST				
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)
10:10	160	10	1	3	5				10:50	334	11	1	3	5			
20	170	11							11:00	328	11					83	58
30	168	12							10	340	10						
40	164	13	126	88	70	18	12	9	20	332	10	125	91	72	14	11	8
50	156	14							30	326	9						
11:00	166	15					84	52	40	330	12						
10	148	13	95	70	65	14	11	9	50	328	14	122	95	75	14	12	9
20	145	12							12:00	320	12					83	56
30	155	12							10	325	15						
40	138	15	105	90	73	15	13	11	20	332	11	137	85	62	14	12	10
50	130	12							30	318	13						
12:00	154	14					85	48	40	320	14						
10	155	13	122	92	79	14	10	8	50	324	12	88	72	55	14	11	10
20	150	12							13:00	325	14					83	54
30	140	12							10	327	14						
40	133	11	110	88	76	16	12	10	20	314	14	120	88	68	17	13	11
13:00							86	48									

Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

14 September 1963			Experiment No. 10			Tracer Release from 1045 to 1145 CST			17 September 1963			Experiment No. 12			Tracer Release from 2000 to 2030 CST						
Time (CST)	D(deg)	S(mph)	Direction	Speed	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction	Speed	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction	Speed	T(°F)	RH(%)	
10:20	060	4	1	1	5		19:30	165	6	1	1	5		20:00	162	7	28	3	<2	<2	74
30	063	7					40	152	7					10	165	7					
40	038	8					50	158	7					20	160	6					
50	065	8	155	132	110	12								30	148	4	28	5	<2	<2	
														40	128	4					
														50	129	4					
11:00	046	8			68	50	21:00	140	4	40	30	<2	<2	30	146	4	40	<2	<2	67	78
10	085	8					10	160	4					10	140	4					
20	030	8	148	130	115	12	20	145	3	35	22	4	<2	20	140	4					
30	078	6					30	128	3					30	130	3					
40	080	10					40							40							
50	048	12	165	122	108	15	50							50							
12:00	065	8			71	46	22:00	155	4	72	50	42	5	22:00	155	4	72	5	<2	<2	84
10	060	10					10	168	6					10	168	6					
20	080	9	132	108	90	13	20	165	4	42	25	3	<2	20	165	4	42	3	<2	<2	
30	080	7					30							30	158	5					
40	103	9					40														
50	075	8	160	148	130	13	50														
13:00					73	43	23:00														
			</																		

Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

18 September 1963										Experiment No. 13										Tracer Release from 2000 to 2100 CST										1 April 1964										Experiment No. 14										Tracer Release from 1200 to 1300 CST									
Time (CST)		D(deg)	S(mph)	Direction Range		Speed Range		T(°F)	RH(%)	Time (CST)		D(deg)	S(mph)	Direction Range		Speed Range		T(°F)	RH(%)	Time (CST)		D(deg)	S(mph)	Direction Range		Speed Range		T(°F)	RH(%)	Time (CST)		D(deg)	S(mph)	Direction Range		Speed Range		T(°F)	RH(%)																				
19:30	40	5	5	1	3	5	1	3	5		11:30	154	23	1	3	5	1	3	5		12:00	158	22	82	66	55	19	17	14	49	50	13:00	140	20	90	65	58	23	18	14	53	42																	
40	45	4	4							11:40	158	22								12:10	140	21									13:10	142	20																										
45	48	5	5							12:00	158	22	10	-	3	<2	<2	58	98	12:20	142	18								13:20	156	19																											
50										12:30	148	21	20	-	<2	<2	<2			12:30	148	21	78	60	50	20	16	13		13:30	148	21	122	82	70	24	19	15																					
										12:40	50	4								12:40	148	23								13:40	158	20																											
										12:50	3	3								12:50	150	22								14:00	158	21																											
										20:00	50	6	10	-	3	<2	<2	58	98	20:10	140	20	40	-	3	<2	<2	59	96	14:00	148	19	80	62	58	22	16	12	55	40																			
										20:10	52	6								20:20	142	20								14:10	142	20																											
										20:20	55	6								20:30	142	18								14:20	156	19																											
										20:30	62	5	20	-	<2	<2	<2			20:40	148	21	20	-	<2	<2	<2			14:30	148	21	122	82	70	24	19	15																					
										20:40	50	4								20:50	150	22								14:40	158	20																											
										20:50	40	3								21:00	140	20								14:50	158	21																											
										21:00	42	<2	40	-	3	<2	<2	59	96	21:10	142	20								15:00	158	21																											
										21:10	42	<2								21:20	142	19								15:10	142	20																											
										21:20	45	<2	<4	-	<2	<2	<2			21:30	145	20								15:20	148	21																											
										21:30	60	5								21:40	160	20								15:30	158	20																											
										21:40	72	4	25	-	3	<2	<2	59	56	21:50	172	21								15:40	158	21																											
										22:00	74	<2								22:00	178	8								15:50	158	21																											
										22:10	73	<2	<4	-	<2	<2	<2			22:10	200	8								16:00	158	21																											
										22:20	72	3								22:20	208	6								16:10	158	20																											
										22:30	75	<2								22:30	225	8	60	52	38	6	5	5		16:20	158	20																											
										22:40	70	<2	15	-	<2	<2	<2	59	97	22:40	226	10								16:30	158	21																											
										23:00	60	<2								23:00	12	12								16:40	158	21																											
																				21:00	220	12								16:50	158	21																											
																				21:10	242	14								17:00	140	20																											
																				21:20	234	15								17:10	142	19																											
																				21:30	230	12								17:20	148	20																											
																				21:40	224	16								17:30	158	21																											
																				21:50	220	15								17:40	158	21																											
																				22:00	220	13								17:50	158	21																											
																				22:10	227	11								18:00	140	20																											
																				22:20	227	10								18:10	142	19																											
																				22:30	235	9								18:20	148	20																											
																				22:40	238	8	62	52	45	6	5	5		18:30	150	22																											
																				22:50	240	7								18:40	150	22																											
																				23:00	240	7								18:50	150	22																											
																				23:10	235	6	10	-	-	2	<2	<2		19:00	142	18	90	65	58	23	18	14	53	42																			
																				23:20	231	5								19:10	142	19																											
																				23:30	220	4								19:20	142	19																											
																				23:40	190	4	45	:	-	2	<2	<2		19:30	142	19																											
																				24:00										19:40	142	19																											
																															19:50	142	19																										
																															20:00	142	19																										
																																142	19																										
																																42	19																										

Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

7 April 1964			Experiment No. 16			Tracer Release from 2048 to 2148 CST			8 April 1964			Experiment No. 17			Tracer Release from 2030 to 2130 CST						
Time (CST)	D(deg)	S(mph)	Direction Range			Speed Range			T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction Range			Speed Range			T(°F)	RH(%)
			1	3	5	1	3	5						1	3	5	1	3	5		
20:20	307	15									20:00	256	8								
30	310	16									10	258	9								
40	309	13									20	258	10								
50	318	9	105	82	68	18	14	11			30	255	10	52	45	35	6	5	4		
											40	252	9								
											50	252	8								
21:00	320	13							42	54											
10	318	15									21:00	250	8	32	25	20	5	4	4	35	62
20	324	12	118	88	68	21	13	10			10	250	9								
30	322	15									20	262	9								
40	322	15									30	264	10	85	56	42	8	5	5		
50	325	17 103									40	264	9								
											50	264	10								
22:00	322	15							40	55											
10	324	16									22:00	262	11	65	50	40	8	6	4	35	66
20	320	17	92	80	70	20	15	13			10	258	10								
30	325	18									20	264	12								
40	318	17									30	270	12	65	55	46	8	6	5		
50	325	14	98	80	62	23	17	13			40	274	11								
											50	270	11								
23:00	326	16							39	55											
10	322	15									23:00	278	11	49	37	30	7	5	4	34	66
20	312	17	118	85	63	21	17	15			10	278	11								
30	313	20									20	279	10								
40	314	18									30	275	10	50	38	32	6	5	4		
50	317	18	110	90	72	23	18	16													
											24:00										
24:00	312	17							38	56										32	68

Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

9 April 1964			Experiment No. 18			Tracer Release from 2045 to 2145 CST			2 June 1964			Experiment No. 19			Tracer Release from 1030 to 1130 CST		
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	T(°F)	RH(%)		Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	T(°F)	RH(%)	
20:20	202	6	1	3	5				10:00	320	10	1	3	5	59	61	
30	200	5							10	328	12						
40	180	4							20	315	12						
50	182	4	25	-	2	<2			30	312	14	130	105	88	16	12	8
									40	312	12						
									50	305	12						
21:00	185	5				-	27										
10	192	6							11:00	315	12	119	102	80	14	10	8
20	200	6	22	-	3	<2			10	328	12				63	58	
30	202	6							20	308	11						
40	198	7							30	315	11	120	98	80	16	12	9
50	200	8	10	-	3	<2			40	325	12						
							28		50	305	12						
22:00	200	9				-											
10	200	9							12:00	302	13	142	108	88	15	10	8
20	194	9	10	-	<2	<2			10	320	10				66	51	
30	198	8							20	316	12						
40	204	8							30	310	9	145	114	92	15	10	8
50	204	8	15	-	<2	<2											
									13:00						69	44	
23:00	195	6				-	30										
10	182	5															
20	170	5	38	-	2	<2											
30	168	5															
40	178	6															
50	185	7	30	-	3	<2			3 June 1964								
									Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	T(°F)	RH(%)	
24:00	200	7				-	33		10:20	312	8	1	3	5			
									30	298	8						
									40	278	6						
									50	260	8	218	142	122	14	10	9
									11:00	250	6				65	56	
									10	270	7						
									20	236	9	250	145	125	16	11	9
									30	238	7						
									40	238	5						
									50	255	9	203	152	118	14	11	9
									12:00	253	9				67	48	
									10	258	10						
									20	227	11	172	132	104	13	10	8
									30	245	8						
									40	293	10						
									50	268	8	185	158	125	14	10	8
									13:00						69	40	

7 June 1964										7 June 1964										7 June 1964													
Experiment No. 21										Experiment No. 22										Experiment No. 23													
Tracer Release from 1030 to 1130 CST										Tracer Release from 1130 to 1230 CST										Tracer Release from 1130 to 1230 CST													
Time (CST)	D(deg)	S(mph)	1	3	5	1	3	5	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	1	3	5	1	3	5	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	1	3	5	1	3	5	T(°F)	RH(%)	
10:00	204	10							67	56	11:00	214	13								80	66	12:00	252	10							82	54
10:10	208	8									10	215	12									10	215	12									
10:20	190	8									20	228	11									20	228	11									
10:30	178	6	62	55	48	6	4	4			30	232	13									30	232	13									
10:40	186	7									40	231	11									40	231	11									
10:50	188	7									50	232	11									50	232	11									
11:00	179	7	92	70	58	7	6	5	69	46	12:00	252	10	130	100	78	15	10	8	82	54	12:00	252	10	130	100	78	15	10	8	82	54	
11:10	150	9									10	234	10									10	234	10									
11:20	162	8									20	257	10									20	257	10									
11:30	162	7	80	60	50	8	5	5			30	243	12	122	108	90	14	10	8			30	243	12	122	108	90	14	10	8			
11:40	172	7									40	252	10									40	252	10									
11:50	170	9									50	252	10									50	252	10									
12:00	155	8	115	80	63	10	7	5	70	44	13:00	250	11	138	112	87	13	9	6	82	50	13:00	250	11	138	112	87	13	9	6	82	50	
12:10	138	8									10	243	11									10	243	11									
12:20	132	9									20	262	13									20	262	13									
12:30	104	8	191	119	106	14	10	8			30	265	10	122	103	90	17	14	10			30	265	10	122	103	90	17	14	10			
13:00									72	42	14:00									82	50	14:00										82	50

6 June 1964										6 June 1964										6 June 1964												
Experiment No. 22										Experiment No. 24										Experiment No. 24												
Tracer Release from 1130 to 1230 CST										Tracer Release from 1130 to 1230 CST										Tracer Release from 1030 to 1130 CST												
Time (CST)	D(deg)	S(mph)	1	3	5	1	3	5	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	1	3	5	1	3	5	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	1	3	5	1	3	5	T(°F)	RH(%)
11:00	204	11							73	70	10:00	10	10									10:00	10	10								
11:10	180	9									10	20	9									10	20	9								
11:20	183	10									20	20	10									20	20	10								
11:30	195	10	112	90	78	11	9	6			30	195	10	11	9	6						30	195	10	11	9	6					
11:40	188	9									40	188	9									40	188	9								
11:50	205	12									50	205	12									50	205	12								
12:00	203	10	142	98	70	16	13	8	76	66	11:00	10	10									11:00	10	10								
12:10	200	12									10	200	12									10	200	12								
12:20	188	12									20	188	12									20	188	12								
12:30	194	13	98	72	55	10	9	6			30	194	13									30	194	13								
12:40	210	9									40	210	9									40	210	9								
12:50	221	9									50	221	9									50	221	9								
13:00	206	9	95	76	55	10	6	5	79	62	12:00	10	10									12:00	10	10								
13:10	230	10									10	230	10									10	230	10								
13:20	226	10									20	226	10									20	226	10								
13:30	220	10	129	88	65	10	9	7			30	220	10									30	220	10								
14:00									80	59	13:00											13:00										

Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

10 June 1964			Experiment No. 25			Tracer Release from 1033 to 1133 CST			10 October 1964			Experiment No. 27			Tracer Release from 1130 to 1230 CST		
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)
10:00			1	3	1	3	74	58	11:00	042	7	1	3	1	3	51	43
10									10	020	5						
20									20	044	4						
30									30	338	4	268	152	10	7	5	
40									40	008	6						
50									50	358	5						
11:00							77	57	12:00	052	8	209	162	10	9	7	53
10									10	040	6						38
20									20	015	5						
30									30	006	4	258	178	9	6	5	
40									40	012	6						
50									50	050	9						
12:00							79	53	13:00	014	4	218	165	11	8	6	55
10									10	058	9						34
20									20	020	7						
30									30	345	4	185	162	13	10	6	
40																	
50							81	51	14:00							56	31
13:00																	
WIND DATA MISSING																	
11 June 1964			Experiment No. 26			Tracer Release from 1035 to 1135 CST			11 October 1964			Experiment No. 28			Tracer Release from 1105 to 1205 CST		
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	Range	T(°F)	RH(%)
10:00			1	3	1	3	74	67	10:30	154	13	1	3	1	3	5	
10									40	150	12						
20									50	150	13						
30									11:00	160	13	98	85	70	13	10	8
40									10	150	12						38
50									20	165	13						
11:00							79	60	30	172	13	122	92	70	12	10	8
10									40	150	12						
20									50	129	12						
30									12:00	133	11	132	110	88	12	10	9
40									10	142	11						35
50									20	152	12						
12:00							81	58	30	158	12	137	115	90	15	12	9
10									40	160	13						
20									50	145	11						
30									13:00	168	12	145	120	100	16	12	10
40																	32
50																	
13:00							83	54									
WIND DATA MISSING																	

Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

12 October 1964				Experiment No. 29				Tracer Release from 2000 to 2100 CST				16 October 1964				Experiment No. 30				Tracer Release from 2000 to 2100 CST			
Time (CST)	D(deg)	S(mph)	Direction			Speed			T(°F)	RH(%)	Time (CST)	D(deg)	S(mph)	Direction			Speed			T(°F)	RH(%)		
			1	3	5	1	3	5						1	3	5	1	3	5				
19:30	342	6									19:30	222	2										
40	315	7									40	218	2										
50	322	6									50	218	4										
20:00	312	7	52	42	27	3	2	2	57	61	20:00	228	4	22	-	-	4	<2	<2	60	50		
10	312	7									10	222	4										
20	314	6									20	227	4										
30	335	5	59	48	32	3	2	2			30	227	6	20	-	-	3	<2	<2				
40	350	6									40	232	6										
50	007	6									50	235	5										
21:00	008	6	36	22	11	2	2	<2	57	64	21:00	230	4	15	-	-	3	<2	<2	58	60		
10	350	6									10	224	5										
20	345	6									20	214	5										
30	360	6	30	17	7	2	2	<2			30	200	5	32	-	-	<2	<2	<2				
40	355	7									40	190	4										
50	348	7									50	194	5										
22:00	344	6	20	12	10	2	2	<2	55	71	22:00	191	5	18	-	-	2	<2	<2	56	64		
10	348	6									10	190	6										
20	355	7									20	176	6										
30	350	6	25	11	5	2	2	<2			30	172	6	31	-	-	<2	<2	<2				
40	356	7									40	186	6										
50	360	6									50	192	6										
23:00	010	4	16	8	5	4	<2	<2	54	71	23:00	190	6	31	-	-	<2	<2	<2	56	54		

Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

17 October 1964			Experiment No. 31			Tracer Release from 1315 to 1415 CST			20 October 1964			Experiment No. 33			Tracer Release from 1915 to 2015 CST		
Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	T(°F)	RH(%)		Time (CST)	D(deg)	S(mph)	Direction	Range	Speed	T(°F)	RH(%)	
12:50	158	12	1	3	5				18:40	200	8	1	3	5			
13:00	152	13				80	24		19:00	201	9				51	26	
10	159	13							10	199	10	16	11	9	2		
20	148	14	98	70	58	12	10	8	20	200	10						
30	160	12							30	204	10						
40	158	12							40	202	10	18	13	9	2	2	
50	152	13	72	55	42	13	10	8	50	200	11						
14:00	148	14															
10	158	14				80	23										
20	162	12	78	62	55	12	7	6	20:00	200	11				50	27	
30	152	15							10	200	10	22	18	15	4	3	3
40	162	12							20	200	10						
50	156	12	79	62	52	13	10	8	30	195	9						
15:00	152	12				80	23		40	195	9	26	20	11	3	2	2
10	153	12							50	192	9						
20	150	12	79	60	48	10	6	5									
16:00						80	25		21:00	192	9				49	28	
									10	191	9	27	14	10	3	2	2
									20	192	9						
									30	192	9						
									40	190	9	26	16	12	2	2	2
									50	190	10						
19 October 1964									22:00	194	11				48	29	
19:10	350	8							10	197	11	31	20	12	3	2	2
20	342	8															
30	335	8															
40	320	6	90	61	42	6	5	3									
50	324	6															
20:00	316	6															
10	308	7	82	52	34	5	3	2									
20	310	5															
30	310	5															
40	307	8	66	58	40	6	4	3									
50	295	6															
21:00	310	6															
10	312	9	68	52	36	6	4	2									
20	309	8															
30	310	7															
40	310	8	62	53	38	5	4	3									
50	322	9															
22:00	325	9															
10	322	9	76	42	32	8	6	4									
20	320	8															
30	328	8															
40	318	8	70	44	29	4	3	2									
23:00																	
						42											
							66										

Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

[illegible]

Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

8 March 1965			Experiment No. 37			Tracer Release from 2030 to 2130 CST			11 March 1965			Experiment No. 38			Tracer Release from 2030 to 2130 CST		
Time (CST)	D(deg)	S(mph)	Direction 1 3 5	Speed Range 1 3 5	T(°F) 38	RH(%) 78			Time (CST)	D(deg)	S(mph)	Direction 1 3 5	Speed Range 1 3 5	T(°F) 40	RH(%) 46		
20:00	290	16							20:00	292	10						
10	286	16							10	298	10						
20	288	15							20	305	10						
30	288	15							30	307	10	62	46	35	6	4	3
40	283	14	108	82	68	14	10	9	40	315	9						
50	285	12							50	320	9						
21:00	284	12	92	79	60	15	10	10	21:00	328	8	72	60	48	5	3	3
10	288	13							10	330	7						52
20	290	13							20	350	6						
30	296	15	92	73	61	13	9	8	30	350	6	55	45	35	3	3	2
40	297	15							40	350	6						
50	295	15							50	360	5						
22:00	294	16	94	62	50	12	9	8	22:00	006	5	41	30	21	3	2	39
10	294	16							10	010	5						54
20	300	17							20	360	5						
30	308	17	79	59	52	17	17	16	30	346	5	42	35	25	4	3	2
40	308	16							40	348	5						
50	310	15							50	351	6						
23:00	303	12	75	60	48	12	10	7	23:00	358	6	35	23	15	4	3	39
10	298	12							10	008	6						60
20	292	13							20	006	5						
30	295	14	76	63	45	13	10	7	30	002	6	32	20	14	3	3	2
24:00									24:00								37
																	79

[illegible]

Table 16 (continued). METEOROLOGICAL MEASUREMENTS, HAZELWOOD HIGH SCHOOL

[illegible]

METEOROLOGICAL MEASUREMENTS ON KMOX-TV TOWER

Data on wind velocity and vertical temperature difference collected on the KMOX-TV Tower are presented in Tables 17 and 18. The period of record is nominally from 1 hour before tracer dissemination began to 1-1/2 hours after the ending for daytime experiments, and to 2 hours after the ending for evening experiments.

For each reporting level^{*} on the tower, Table 17 lists 10-minute averages of wind direction and speed and the first, third, and fifth highest ranges of wind direction and speed during 30-minute intervals. Times (CST) specify the termination of the sampling periods. Direction ranges less than 4 degrees and speed ranges less than 2 miles per hour are not given, since they approach the accuracies of the respective estimations.

Table 18 consists of all available printouts⁺ of the reference temperature at 124 feet, and of the temperature differences between 249 and 124 feet and between 452 and 124 feet. Either five or six printouts of each element occurred each half-hour. The reference temperature was printed first followed at nominal 2- and 4- minute intervals by the temperature differences for the lower layer and total layer, respectively. Half-hourly arithmetic averages of each of these elements are also presented, being separated from the printouts by a horizontal line. The average values for the listed times (in CST) and the data printouts preceding the listed times are for the preceding half-hour interval.

^{*}The Aerovane on the middle level was not installed until May 1964.

⁺The vertical temperature difference system, in particular, was inoperative during many of the earlier experiments.

TABLE 17. WIND MEASUREMENTS, KMOX-TV TOWER

Symbols

D(deg)	:	Wind direction to the nearest whole degree of azimuth
S(mph)	:	Wind speed in whole miles per hour
D Range 1, 3, and 5:		The first, third, and fifth highest direction ranges in whole degrees of azimuth
S Range 1, 3, and 5:		The first, third, and fifth highest speed ranges in whole miles per hour
C	:	Calm - Wind speed less than the threshold speed of the instrument
-	:	Missing data, for wind direction ranges, data either missing or unidentified

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

27 May 1963

Experiment No. 2

Tracer Release from 1410 to 1440 CST

Time (CST)	Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)					
	D	S	D Range		S Range	D	S	D Range		S Range	D	S	D Range		S Range	
			1	3				5	1				3	5		1
13:30	deg	mph	1	3	5	1	3	5	1	3	5	deg	mph	1	3	5
40	280	14										290	15			
50	288	17										298	16			
	300	16										290	14			
14:00	290	16	110	93	78	20	14	10				296	13	95	80	54
10	292	18										305	14			
20	302	16										302	13			
30	310	15	130	104	92	14	11	9				302	14	83	70	55
40	320	15										300	12			
50	308	14										305	11			
15:00	325	14	104	90	82	14	9	7				300	9	95	82	62
10	318	15										308	10			
20	318	14										298	13			
30	304	15	135	97	76	11	9	7				296	13	118	75	55
40	292	16										285	13			
50	308	16										278	14			
16:00	320	18	128	92	75	16	12	9				275	15	85	58	53

28 May 1963

Experiment No. 3

Tracer Release from 1000 to 1100 CST

Time (CST)	Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)					
	D	S	D Range		S Range	D	S	D Range		S Range	D	S	D Range		S Range	
			1	3				5	1				3	5		1
9:30	deg	mph	1	3	5	1	3	5	1	3	5	deg	mph	1	3	5
40	285	20										265	17			
50	292	18										270	16			
	300	20										278	16			
10:00	305	22	110	70	60	15	9	8				263	16	65	42	40
10	298	20										272	16			
20	287	20										278	16			
30	290	20	108	60	52	13	8	6				280	16	92	68	45
40	290	18										278	16			
50	294	22										270	16			
11:00	287	22	100	65	50	14	8	6				270	16	75	65	48
10	290	18										272	16			
20	290	18										277	16			
30	290	17	96	60	52	10	7	5				272	17	80	50	40
40	298	18										275	14			
50	291	19										265	12			
12:00	297	19	120	78	48	13	6	4				280	14	90	65	50

1100 CST

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

19 July 1963		Experiment No. 4		Tracer Release from 1130 to 1230 CST	
Time (CST)	Lower Level (127 ft)				
	D	S	D Range	S Range	
11:00	deg 215	mph 14	1 3 5	1 3 5	
10	210	16			
20	216	17			
30	208	19	85 70 58	18 16 13	
40	222	16			
50	215	14			
12:00	232	14	142 103 96	17 14 11	
10	225	14			
20	240	16			
30	225	17	130 102 78	24 20 14	
40	220	15			
50	224	18			
13:00	215	21	118 93 75	22 19 14	
10	210	17			
20	216	20			
30	215	17	110 90 72	21 19 15	
22 July 1963		Experiment No. 5		Tracer Release from 1104 to 1204 CST	
Time (CST)	Lower Level (127 ft)				
	D	S	D Range	S Range	
10:30	deg 182	mph 10	1 3 5	1 3 5	
40	175	10			
50	195	10			
11:00	175	10	135 118 95	11 11 8	
10	177	9			
20	195	9			
30	180	10	182 135 95	11 10 9	
40	195	11			
50	180	9			
12:00	162	9	146 100 92	14 10 8	
10	155	9			
20	163	11			
30	157	10	143 103 85	14 11 9	
40	160	11			
50	142	9			
13:00	175	11	150 115 98	17 12 11	
		Experiment No. 4		Tracer Release from 1130 to 1230 CST	
Time (CST)	Lower Level (127 ft)				
	D	S	D Range	S Range	
11:00	deg 220	mph 16	1 3 5	1 3 5	
10	218	19			
20	193	19			
30	215	20	90 63 38	21 15 13	
40	220	21			
50	220	17			
12:00	228	17	98 80 54	19 13 11	
10	222	17			
20	235	17			
30	221	20	88 70 56	21 16 14	
40	220	19			
50	220	21			
13:00	212	22	135 62 52	25 17 13	
10	215	23			
20	220	21			
30	214	20	90 53 25	21 17 14	
		Experiment No. 5		Tracer Release from 1104 to 1204 CST	
Time (CST)	Lower Level (127 ft)				
	D	S	D Range	S Range	
10:30	deg 195	mph 13	1 3 5	1 3 5	
40	195	13			
50	190	9			
11:00	185	11	130 95 82	14 11 9	
10	182	13			
20	188	13			
30	186	11	120 86 72	14 9 8	
40	188	14			
50	180	13			
12:00	170	13	147 80 58	14 11 9	
10	166	11			
20	175	11			
30	160	9	138 82 58	13 9 7	
40	165	11			
50	175	13			
13:00	180	13	90 80 65	14 11 10	

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

23 July 1963		Experiment No. 6										Tracer Release from 1130 to 1230 CST									
Time (CST)	D deg	Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)									
		D	S	D Range	S Range	D	S	D Range	S Range	D	S	D Range	S Range	D	S	D Range	S Range				
11:00	155	16	15	1	3	5		1	3	5		1	3	5		1	3				
10	145	15	15											138	138						
20	155	18	18											152	152						
30	157	18	18	130	104	85								148	148						
40	144	19	19											120	120						
50	153	18	18											135	135						
12:00	153	19	19	112	89	75								147	147						
10	157	17	17											132	132						
20	140	20	20											155	155						
30	157	18	18	136	95	78								136	136						
40	150	18	18											125	125						
50	163	17	17											132	132						
13:00	155	16	16	146	115	75								105	105						
10	142	18	18											110	110						
20	163	16	16											100	100						
30	165	16	16	140	115	85								96	96						

25 July 1963		Experiment No. 7										Tracer Release from 1040 to 1140 CST									
Time (CST)	D deg	Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)									
		D	S	D Range	S Range	D	S	D Range	S Range	D	S	D Range	S Range	D	S	D Range	S Range				
10:10	152	8	8	1	3	5		1	3	5		1	3	5		1	3				
20	138	10	10											155	155						
30	153	8	8											153	153						
40	150	8	8	223	142	110								150	150						
50	130	9	9											153	153						
11:00	140	11	11											150	150						
10	120	13	13	190	146	122								134	134						
20	120	14	14											142	142						
30	120	13	13											132	132						
40	143	11	11	185	142	110								150	150						
50	120	12	12											150	150						
12:00	135	10	10											158	158						
10	150	9	9	162	125	95								155	155						
20	140	11	11											145	145						
30	126	12	12											148	148						
40	146	10	10	162	122	93								145	145						

*The instrument boom was located on the northwest corner of the KMOX tower. With a southeast wind the tower structure created turbulence which gave unreliable wind traces.

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

Experiment No. 8										Tracer Release from 1045 to 1145 CST									
Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)									
Time (CST)	D		S		D Range		S Range		D	S		D Range		S Range					
	deg	mph	mph		1	3	5	1		3	5	deg	mph	1	3	5			
10:10	148	13							156	13									
20	148	10							152	13									
30	140	13							158	13									
40	150	12	190	124	105	16	13	12	160	12	250	173	128	20	17				
50	160	14							158	16									
11:00	160	12							160	14									
10	157	14	165	128	108	17	15	13	160	16	110	88	72	17	14				
20	148	12							158	14									
30	163	11							172	15									
40	175	11	220	132	108	17	15	13	164	16	152	92	75	17	14				
50	163	13							170	18									
12:00	170	13							170	17									
10	150	11	180	130	112	14	11	9	158	15	132	86	70	17	16				
20	160	11							163	15									
30	155	11							165	14									
40	165	9	160	132	115	17	14	10	170	16	180	114	90	21	17				
										Tracer Release from 1115 to 1215 CST									
Experiment No. 9										Tracer Release from 1115 to 1215 CST									
Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)									
Time (CST)	D		S		D Range		S Range		D	S		D Range		S Range					
	deg	mph	mph		1	3	5	1		3	5	deg	mph	1	3	5			
10:50	320	9							335	11									
11:00	312	9							317	12									
10	315	11							335	13									
20	325	14	152	125	112	14	11	9	340	14	148	98	75	13	9				
30	340	13							343	14					7				
40	335	13							340	15									
50	330	14	135	114	100	14	11	9	342	14	120	88	62	14	8				
12:00	329	14													6				
10	333	15							335	17									
20	350	14	152	110	87	15	11	9	350	16									
30	323	12							342	15	82	60	58	15	8				
40	342	13							342	16					6				
50	340	14	143	120	93	14	11	10	354	15									
	340	14							350	14	92	62	50	12	7				
13:00	328	14													6				
10	300	12							338	16									
20	320	14	158	122	103	15	14	12	326	14									
									340	16	98	72	60	14	9				

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

14 September 1963		Experiment No. 10		Tracer Release from 1045 to 1145 CST									
Time (CST)	D deg	S mph	Lower Level (127 ft)			Middle Level (255 ft)			Upper Level (459 ft)			D deg	S mph
			D Range	S Range		D Range	S Range		D Range	S Range			
10:20	060	8	1 3 5	1 3 5		1 3 5	1 3 5		1 3 5	1 3 5		060	6
30	053	8										052	6
40	060	7										059	6
50	043	7	132 104 75	7 6 6					108 82 68	7 5 4		062	6
11:00	020	7										039	6
10	044	8										052	7
20	060	7	128 106 88	10 9 7					110 90 72	9 6 6		070	6
30	065	10										065	9
40	068	10										073	10
50	072	11	107 76 60	10 9 7					104 62 52	10 8 6		083	10
12:00	062	12										075	11
10	050	10										068	9
20	062	9	140 85 70	10 9 7					80 75 45	7 6 5		076	10
30	061	9										072	8
40	060	10										062	9
50	080	8	155 108 90	11 9 6					125 95 75	10 8 6		090	9

16 September 1963		Experiment No. 11		Tracer Release from 1100 to 1200 CST									
Time (CST)	D deg	S mph	Lower Level (127 ft)			Middle Level (255 ft)			Upper Level (459 ft)			D deg	S mph
			D Range	S Range		D Range	S Range		D Range	S Range			
10:30	145	9	1 3 5	1 3 5		1 3 5	1 3 5		1 3 5	1 3 5		060	6
40	140	9										052	6
50	150	9										059	6
11:00	160	13	155 115 100	21 15 11								062	6
10	140	10										039	6
20	145	11										052	7
30	160	9	145 125 114	14 12 11								070	6
40	150	10										065	9
50	153	8										073	10
12:00	125	10	170 130 110	17 15 12								083	10
10	135	9										075	11
20	125	10										068	9
30	132	9	168 118 88	17 14 12								076	10
40	140	9										072	8
50	140	8										062	9
13:00	150	9	158 135 112	14 12 11								090	9

MISSING

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

17 September 1963

Experiment No. 12

Tracer Release from 2000 to 2030 CST

Time (CST)	Lower Level (127 ft)			Middle Level (255 ft)			Upper Level (459 ft)		
	D deg	S mph	D Range 1 3 5	D deg	S mph	D Range 1 3 5	D deg	S mph	D Range 1 3 5
19:30	142	6							
40	138	6							
50	150	5							
20:00	145	6	110 90 72 7 6 6						
10	150	5							
20	150	6							
30	130	5	120 80 78 7 6 6						
40	144	5							
50	132	6							
21:00	140	8	118 104 88 9 8 6						
10	147	6							
20	147	7							
30	140	6	130 110 94 8 7 6						
40	168	7							
50	162	6							
22:00	168	7	122 102 75 7 7 6						
10	162	7							
20	160	6							
30	158	6	90 75 60 6 6 5						
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Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

		Experiment No. 14						Tracer Release from 1200 to 1300 CST					
		Lower Level (127 ft)			Middle Level (255 ft)			Upper Level (459 ft)					
Time (CST)	D deg	S mph	D Range		S Range		D deg	S mph	D Range		S Range		
			1	3	5	1			3	5	1	3	5
11:30	137	10											
11:40	139	11											
11:50	147	10											
12:00	139	11	134	115	97	18	16	14					
12:10	139	12											
12:20	145	10											
12:30	142	12	120	95	82	18	16	14					
12:40	129	14											
12:50	125	15											
13:00	142	13	130	90	72	21	18	16					
13:10	145	12											
13:20	139	11											
13:30	127	11	140	95	78	23	18	15					
13:40	131	11											
13:50	142	10											
14:00	137	11	138	112	96	21	17	14					

[illegible]

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

Tracer Release from 2048 to 2148 CST															
Experiment No. 16				Lower Level (127 ft)				Middle Level (255 ft)				Upper Level (459 ft)			
Time (CST)	D deg	S mph	D Range	S Range	D deg	S mph	D Range	S Range	D deg	S mph	D Range	S Range			
20:20	281	14	1 3 5	1 3 5					280	17	1 3 5	1 3 5			
30	276	14							283	22					
40	283	16							284	22					
50	275	14	128 112 100	17 15 12					292	23	88 70 58	15 11 9			
21:00	280	14							290	22					
10	283	14							280	20					
20	279	15	130 106 95	17 15 12					290	22	100 78 62	16 14 10			
30	283	14							285	23					
40	276	14							282	23					
50	288	11	130 105 95	18 16 13					290	19	100 82 72	17 16 15			
22:00	289	13							290	22					
10	288	16							298	21					
20	291	14	122 105 95	18 16 14					292	24	102 80 68	18 16 14			
30	300	16							308	25					
40	302	18							305	23					
50	305	18	110 103 88	19 17 15					297	24	104 80 68	18 15 12			
23:00	309	18							308	27					
10	306	19							302	23					
20	300	16	108 94 82	18 15 13					204	23	88 65 56	16 14 12			
30	304	18							308	25					
40	301	19							300	25					
50	291	16	122 107 92	18 16 14					300	26	82 72 60	16 11 9			
24:00	308	17							297	23					

8 April 1964		Experiment No. 17				Tracer Release from 2030 to 2130 CST											
Time (CST)		Lower Level (127 ft)				Middle Level (255 ft)				Upper Level (459 ft)							
		D deg	S mph	D Range	S Range	D deg	S mph	D Range	S Range	D deg	S mph	D Range	S Range				
20:00	20	229	10	1 3 5	1 3 5	240	18	5 1 3 5	232	16	3 5	1 3 5	232	18	3 5	1 3 5	
20	20	231	14			232	18			230	18			233	17		
30	30	229	13	64 52 42	9 7 6	233	18			238	18	36 32 22	9 7 6				
40	40	232	13														
50	50	234	11			238	18			235	18	50 38 30	9 7 6				
21:00	10	231	12	62 48 40	9 7 6	235	16			232	18	48 40 32	9 7 6				
20	20	235	13			232	18			232	19						
30	30	240	12	65 45 40	11 9 7	238	20			234	19	65 48 40	11 9 7				
40	40	240	12							235	21						
50	50	244	14							238	21	52 42 30	9 7 6				
22:00	10	236	12	63 52 40	9 7 6	238	21			238	21						
20	20	241	12							242	21	42 30	9 7 6				
30	30	242	12	92 75 58	9 7 6					242	21						
40	40	238	12							248	18						
50	50	218	11														
23:00	10	219	10	70 59 48	10 9 7					242	21	45 32 23	8 6 5				
20	20	220	11							243	18						
30	30	215	10	75 56 42	10 8 7					248	18	52 32 28	9 6 5				

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

2 June 1964		Experiment No. 19		Tracer Release from 1030 to 1300 CST											
Time (CST)	Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)				
	D	S	D Range	S Range		D	S	D Range	S Range		D	S	D Range	S Range	
10:00	deg	mph	1	3	5	deg	mph	1	3	5	deg	mph	1	3	5
10	285	9				292	12				298	12			
20	292	13				285	14				290	14			
30	275	12				270	14				290	15			
40	305	11	134	112	92	299	14	126	102	82	303	14	92	72	59
50	310	13				300	14				305	16			
	292	9				282	12				282	14			
11:00	270	14	142	119	95	276	16	128	98	80	282	15	115	98	78
10	262	12				259	14				268	14			
20	275	14				278	14				282	14			
30	285	11	148	122	105	295	12	130	104	90	295	13	122	100	82
40	270	14				269	15				280	15			
50	305	12				309	14				303	14			
12:00	285	14	160	126	108	278	15	130	102	86	280	15	122	90	75
10	298	12				298	16				300	16			
20	314	12				308	14				300	14			
30	285	14	132	116	95	279	15	132	94	74	258	15	107	76	60
			</												

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

3 June 1964		Experiment No. 20				Tracer Release from 1040 to 1140 CST												
Time (CST)	D deg	Lower Level (127 ft)			Middle Level (255 ft)			Upper Level (459 ft)			D deg	S mph	D Range	S Range				
		1	3	5	1	3	5	1	3	5								
10:20	210	7									230	8	1	3	5			
30	208	8									225	8						
40	230	7									235	7						
50	252	10	190	165	130	12	9	7			252	9	152	123	103	13	8	7
11:00	238	7									270	7						
10	280	9									270	11						
20	270	7	200	152	114	12	9	7			270	8	139	115	92	11	9	7
30	240	10									242	10						
40	235	7									242	8						
50	258	10	127	104	96	10	8	7			240	9	116	83	65	11	9	7
12:00	235	7									222	9						
10	240	9									252	9						
20	300	3	202	166	130	10	8	7			258	8	208	150	128	14	9	7
30	240	7									230	9						
40	248	9									238	8						
50	272	9	222	191	155	12	9	8			262	10	168	122	110	10	8	6
4 June 1964		Experiment No. 21				Tracer Release from 1030 to 1130 CST												
Time (CST)	D deg	Lower Level (127 ft)			Middle Level (255 ft)			Upper Level (459 ft)			D deg	S mph	D Range	S Range				
		1	3	5	1	3	5	1	3	5								
10:00	172	8									190	9	1	3	5			
10	186	8									180	9						
20	182	7									188	7						
30	205	6	159	118	96	8	6	5			180	7	142	95	62	9	7	6
40	180	6									183	6						
50	150	7									165	9						
11:00	162	8	180	135	120	9	7	6			162	7	185	85	56	9	7	6
10	152	7									162	7						
20	160	5									168	7						
30	126	6	198	156	128	8	7	6			152	4	160	122	90	9	8	8
40	118	7									150	5						
50	150	6									150	4						
12:00	135	5	146	125	108	10	7	6			158	4	208	138	110	9	8	7
10	135	7									152	3						
20	112	8									168	3						
30	110	8	126	105	85	10	7	7			140	4	220	185	159	8	6	6

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

6 June 1964

Experiment No. 22

Tracer Release from 1130 to 1230 CST

Time (CST)	Lower Level (127 ft)				Middle Level (255ft)				Upper Level (459ft)			
	D deg	S mph	D Range 1 3 5	S Range 1 3 5	D deg	S mph	D Range 1 3 5	S Range 1 3 5	D deg	S mph	D Range 1 3 5	S Range 1 3 5
11:00	170	7			173	9			174	12		
10	172	11			170	11			177	13		
20	185	9			180	9			182	11		
30	172	9	145 98	72 15 8 6	175	13	100 72	63 14 9 7	180	14	110 74	53 10 7 6
40	188	9			182	12			178	14		
50	180	11			184	11			187	15		
12:00	188	9	165 94	75 14 10 7	178	11	138 77	62 11 10 8	183	13	88 62	46 11 9 6
10	192	9			185	10			180	12		
20	190	11			180	14			182	15		
30	191	9	145 103	75 15 9 7	190	11	142 94	69 14 12 8	194	12	120 94	71 16 11 9
40	173	8			183	9			175	11		
50	187	8			178	9			182	12		
13:00	185	9	154 118	99 12 10 8	182	13	144 110	85 14 10 8	185	14	110 82	65 12 9 7
10	186	9			181	12			184	13		
20	172	11			172	13			180	14		
30	170	9	143 120	92 14 10 7	177	11	124 100	73 14 9 7	188	15	118 80	61 11 7 7

7 June 1964

Experiment No. 23

Tracer Release from 1132 to 1232 CST

Time (CST)	Lower Level (127ft)				Middle Level (255ft)				Upper Level (459 ft)			
	D deg	S mph	D Range 1 3 5	S Range 1 3 5	D deg	S mph	D Range 1 3 5	S Range 1 3 5	D deg	S mph	D Range 1 3 5	S Range 1 3 5
11:00	208	10			202	11			204	9		
10	223	9			228	12			212	10		
20	204	10			200	14			204	14		
30	202	11	126 104	89 15 11 9	205	16	122 98	82 18 13 9	210	14	116 88	74 13 10 7
40	222	13			220	14			222	14		
50	226	14			232	15			233	13		
12:00	242	13	160 100	81 14 11 9	238	16	123 92	72 15 11 9	239	12	110 78	62 14 10 8
10	239	11			232	14			226	14		
20	232	13			232	15			232	14		
30	214	12	132 100	68 11 8 7	213	14	108 82	63 12 10 7	216	13	88 65	54 11 7 6
40	214	14			220	14			226	13		
50	229	9			226	12			222	12		
13:00	210	10	118 98	79 12 10 8	214	10	93 78	68 11 10 8	229	9	108 82	68 12 9 7
10	250	9			246	9			232	8		
20	240	12			236	13			230	13		
30	233	10	128 105	82 14 10 8	238	13	99 80	63 13 9 7	232	11	122 82	65 10 9 7

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

9 June 1964

Experiment No. 24

Tracer Release from 1030 to 1130 CST

Time (CST)	Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)				
	D		S		D Range	D		S		D Range	D		S		S Range
	deg	mph	deg	mph		deg	mph	deg	mph		deg	mph			
10:00	202	16				190	20				198	19			
10	208	14				195	20				200	22			
20	295	16				195	21				195	22			
30	198	18			108 95 82 20 17 15	190	22			115 90 72 20 17 14	197	21			18 14 11
40	197	16				187	19				188	18			
50	185	13				176	18				190	20			
11:00	182	15			150 118 98 21 17 15	188	21				192	23			21 17 13
10	198	18				188	22				188	25			
20	190	18				182	23				190	26			
30	198	17			122 100 84 23 19 16	190	23			95 79 65 22 19 15	192	25			19 15 11
40	188	17				187	25				190	27			
50	190	17				185	21				188	23			
12:00	185	17			112 90 75 19 16 14	186	22				190	25			19 15 11
10	196	17				187	22				193	23			
20	190	19				188	24				191	26			
30	198	16			108 88 72 23 18 15	182	21			92 75 60 22 16 15	191	24			22 15 11

10 June 1964

Experiment No. 25

Tracer Release from 1033 to 1133 CST

Time (CST)	Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)				
	D		S		D Range	D		S		D Range	D		S		S Range
	deg	mph	deg	mph		deg	mph	deg	mph		deg	mph			
10:00	355	7			1 3 5	350	9			1 3 5	342	7			1 3 5
10	015	7				006	9				340	7			
20	012	6				360	7				333	6			
30	338	6			193 146 124 8 7 7	360	7			185 143 110 8 6 6	347	6			6
40	342	8				342	9				332	7			7
50	060	6				268	7				324	6			
11:00	340	6			264 227 188 9 7 6	334	8				328	7			6
10	355	5				342	7			250 188 123 9 8 7	320	5			7
20	324	5				336	7				305	5			
30	348	6			144 122 96 9 7 5	340	8			155 110 93 7 6 6	313	7			5 4
40	010	6				030	7				322	6			
50	258	8				338	8				332	7			
12:00	360	5			326 268 239 15 10 7	332	6				298	5			9 7 5
10	342	5				338	7				316	7			
20	024	6				354	8				340	7			
30	346	6			182 150 122 10 7 6	346	7			260 163 138 12 9 8	312	7			9 7 6

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

11 June 1964		Experiment No. 26		Tracer Release from 1035 to 1135 CST											
Time (CST)	Lower Level (127 ft.)				Middle Level (255 ft.)				Upper Level (459 ft.)						
	D deg	S mph	D Range 1 3 5	S Range 1 3 5	D deg	S mph	D Range 1 3 5	S Range 1 3 5	D deg	S mph	D Range 1 3 5	S Range 1 3 5			
10:00	82	8			97	12			92	9					
10:10	80	8			96	12			92	9					
20	92	11			105	13			95	11					
30	100	9	88	76 58 10 8 6	108	12	90	75 56 9 7 5	100	9	111	74 62 11 8 6			
40	88	12			102	13			91	13					
50	78	16			90	17			84	15					
11:00	88	12	112	85 67 16 10 9	100	14	95	76 60 14 12 9	83	13	82	58 48 12 9 7			
10	96	9			102	12			96	9					
20	123	8			130	11			121	7					
30	133	7	155	129 103 12 9 8	150	9	142	120 92 9 8 6	152	8	154	135 100 13 9 7			
40	122	7			148	9			160	8					
50	150	7			154	8			168	8					
12:00	170	8	182	159 138 10 8 6	169	10	118	93 67 9 7 6	161	9	132	110 90 13 9 8			
10	151	7			159	9			163	7					
20	167	7			178	8			173	8					
30	200	7	162	142 125 11 8 6	200	10	182	138 118 11 8 6	180	9	146	88 69 14 9 9			
Tracer Release from 1130 to 1230 CST															
10 October 1964		Experiment No. 27		Tracer Release from 1130 to 1230 CST											
Time (CST)	Lower Level (127 ft.)				Middle Level (255 ft.)				Upper Level (459 ft.)						
	D deg	S mph	D Range 1 3 5	S Range 1 3 5	D deg	S mph	D Range 1 3 5	S Range 1 3 5	D deg	S mph	D Range 1 3 5	S Range 1 3 5			
11:00	048	7			035	8			050	6					
10	045	7			358	8			042	7					
20	049	7			015	9			051	9					
30	012	6	182	149 108 9 7 6	352	7	120	99 86 7 6 5	020	5	122	108 90 9 7 6			
40	058	7			038	7			052	8					
50	030	7			004	6			046	7					
12:00	065	7	192	158 132 8 6 6	015	8	128	100 85 9 7 6	078	8	172	132 91 9 7 6			
10	030	7			322	6			052	8					
20	052	8			010	7			070	9					
30	028	7	135	115 100 9 7 6	004	7	210	171 123 9 7 6	045	8	142	112 80 10 8 6			
40	060	6			358	6			078	8					
50	068	6			010	6			050	8					
13:00	052	5	142	105 88 8 6 5	012	7	137	108 92 8 6 5	060	7	144	122 95 8 6 5			
10	360	7			012	8			041	7					
20	028	6			018	6			038	7					
30	056	7	175	140 120 9 7 6	360	6	145	100 71 7 6 5	053	7	172	142 120 8 6 5			

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

11 October 1964		Experiment No. 28		Tracer Release from 1105 to 1205 CST											
Time (CST)	Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)				
	D deg	S mph	D Range 1 3 5	S Range 1 3 5		D deg	S mph	D Range 1 3 5	S Range 1 3 5		D deg	S mph	D Range* 1 3 5	S Range* 1 3 5	
10:30	140	7				90	8				175	9			
40	170	9				85	11				180	7			
50	148	9				96	9				182	9			
11:00	126	9	242	150	114	13	9	7			168	6			
10	118	8				92	7				162	6			
20	120	9				94	8				170	7			
30	140	7	150	104	70	14	9	7			165	6			
40	120	9				90	9				185	6			
50	123	8				95	7				180	4			
12:00	136	9	135	110	87	17	12	8			168	7			
10	130	7				88	8				170	7			
20	150	7				85	9				172	8			
30	128	9				100	8				175	6			
40	128	7	154	112	80	14	11	9			162	6			
50	120	9				95	7				176	6			
13:00	118	7	128	92	74	15	11	9			185	5			

*The instrument boom was located on the north-west corner of the KMOX tower. With a southeast wind the tower structure created turbulence which gave unreliable wind traces.

Tracer Release from 2000 to 2100 CST																		
Experiment No. 29																		
Time (CST)	Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)							
	D deg	S mph	D Range 1 3 5	S Range 1 3 5		D deg	S mph	D Range 1 3 5	S Range 1 3 5		D deg	S mph	D Range 1 3 5	S Range 1 3 5				
19:30	342	6				-	10				348	11						
40	318	7				-	10				340	12						
50	305	7				-	10				333	11						
20:00	306	7	102	79	62	-	10	-	-	6	328	10	15	-	3	<2		
10	305	7				-	11				320	9						
20	316	8				-	12				320	12						
30	330	9	92	73	60	-	10	-	-	7	328	13	38	22	15	3	2	2
40	343	7				-	9				336	11						
50	346	7				-	10				343	11						
21:00	355	7	96	72	60	-	9	-	-	-	348	12	42	30	18	4	2	<2
10	352	7				-	10				348	13						
20	358	7				-	10				349	14						
30	359	7	78	62	53	-	10	-	-	4	350	13	30	16	10	4	2	<2
40	350	7				-	9				350	12						
50	352	6				-	9				342	11						
22:00	006	5	92	69	53	-	9	-	-	-	347	11	30	14	8	4	2	<2
10	010	6				-	8				356	13						
20	012	6				-	9				360	11						
30	008	7	80	62	41	-	9	-	-	4	355	10	30	15	7	4	3	2
40	010	7				-	9				356	9						
50	016	6				-	9				003	11						
23:00	020	6	58	46	34	-	9	-	-	-	005	10	28	15	7	4	2	2

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

16 October 1964

Experiment No. 30

Tracer Release from 2000 to 2100 CST

Time (CST)	Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)							
	D		S		D Range	D		S		D Range	D		S		D Range			
	deg	mph	1	3	5	1	3	5	1	3	5	1	3	5	1	3	5	
19:30	162	3				170	2				182	<2						
40	168	3				176	3				180	<2						
50	162	3				178	5				180	2						
20:00	168	3	53	42	32	3	<2	<2			179	6	18	-	-	4	<2	<2
10	170	4				180	7				180	4						
20	172	4				189	7				182	4						
30	186	5	28	-	-	4	<2	<2			196	8	29	-	-	2	<2	<2
40	200	4				200	8				200	8						
50	200	5				200	8				200	8						
21:00	195	4	15	-	-	4	<2	<2			200	8	10	-	-	2	<2	<2
10	186	3				200	8				198	5						
20	156	3				190	8				190	6						
30	170	3	128	82	50	3	<2	<2			185	8	25	-	-	2	<2	<2
40	180	3				184	7				180	7						
50	180	3				187	8				180	8						
22:00	195	4	52	36	14	3	<2	<2			190	8	28	-	-	3	<2	<2
10	190	5				192	9				175	8						
20	185	5				195	11				175	8						
30	188	6	25	12	-	4	<2	<2			191	12	12	-	-	4	<2	<2
40	180	6				190	11				175	10						
50	186	6				188	10				172	11						
23:00	182	5	25	12	-	3	<2	<2			190	11	14	-	-	3	<2	<2

Tracer Release from 1315 to 1415 CST

Experiment No. 31

17 October 1964

Time (CST)	Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)							
	D		S		D Range	D		S		D Range	D		S		D Range			
	deg	mph	1	3	5	1	3	5	1	3	5	1	3	5	1	3	5	
12:50	165	8				162	9				163	9						
13:00	142	8				145	9				156	9						
10	128	8				152	8				162	11						
20	160	9	152	112	95	14	10	8			160	10	103	88	79	12	9	7
30	132	8				140	9				140	9						
40	128	7				140	9				153	9						
50	130	7	158	116	102	12	9	7			148	8	137	98	89	12	8	6
14:00	138	7				148	9				154	9						
10	142	8				150	8				164	9						
20	144	7	176	114	90	14	10	7			141	5	142	99	82	12	8	7
30	140	7				150	8				152	7						
40	130	7				148	9				162	9						
50	132	6	150	92	62	12	9	7			158	9	120	92	76	10	7	5
15:00	140	7				153	9				162	9						
10	128	7				146	9				160	9						
20	142	7	115	88	74	12	9	7			156	8	118	90	78	12	8	6

Tracer Release from 1315 to 1415 CST

Experiment No. 31

17 October 1964

Time (CST)	Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)							
	D		S		D Range	D		S		D Range	D		S		D Range			
	deg	mph	1	3	5	1	3	5	1	3	5	1	3	5	1	3	5	
12:50	165	8				162	9				163	9						
13:00	142	8				145	9				156	9						
10	128	8				152	8				162	11						
20	160	9	152	112	95	14	10	8			160	10	103	88	79	12	9	7
30	132	8				140	9				140	9						
40	128	7				140	9				153	9						
50	130	7	158	116	102	12	9	7			148	8	137	98	89	12	8	6
14:00	138	7				148	9				154	9						
10	142	8				150	8				164	9						
20	144	7	176	114	90	14	10	7			141	5	142	99	82	12	8	7
30	140	7				150	8				152	7						
40	130	7				148	9				162	9						
50	132	6	150	92	62	12	9	7			158	9	120	92	76	10	7	5
15:00	140	7				153	9				160	9						
10	128	7				146	9				156	10						
20	142	7	115	88	74	12	9	7			162	11	127	88	70	17	10	9

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

Experiment No. 32										Tracer Release from 1945 to 2045 CST									
Time (CST)	Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)								
	D		S		D Range	S Range	D		S		D Range	S Range	D		S				
	deg	mph	deg	mph			deg	mph	deg	mph			deg	mph					
19:10	345	9					358	10					002	9					
20	348	9					345	11					350	11					
30	338	9					347	11					350	12					
40	348	8	126	78	61	11	7	6			85	58	36	11	9	6			
50	342	9					350	10					352	11					
20:00	330	8					332	10					338	12					
10	333	8	116	95	70	11	9	6			92	70	52	9	7	5			
20	328	8					330	11					340	9					
30	334	8					328	10					338	11					
40	316	8	106	95	71	9	7	6			90	72	50	8	6	5			
50	322	10					322	11					308	10	110	90			
													322	12					
21:00	312	8					316	9					312	9					
10	292	9	90	85	65	9	7	5			105	75	55	7	6	4			
20	300	8					304	9					308	10					
30	308	8					312	9					315	10					
40	318	9	108	92	73	7	5	4			100	78	58	8	6	5			
50	315	9					317	10					319	11	98	76			
													316	10					
22:00	323	10					328	12					330	12					
10	320	8	110	92	70	9	7	6			90	72	52	9	8	6			
20	328	10					325	9					330	14	106	69			
30	329	10					332	11					335	16					
40	330	11	111	92	68	11	7	5			72	53	40	10	8	6			
							332	12					336	14	70	50			
															33	12			
															7	3			

Experiment No. 33										Tracer Release from 1915 to 2015 CST									
Time (CST)	Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)								
	D	S	D Range		S Range	D	S	D Range		S Range	D	S	D Range		S Range				
	deg	mph	1	3	5	1	3	5	1	3	5	deg	mph	1	3	5			
18:40	204	11				199	17				204	21							
50	198	10				202	17				205	22							
19:00	202	11				205	18				210	24							
10	198	11	71	62	52	10	9	7			210	24	34	26	17	7			
20	195	10				194	17				202	23				6			
30	199	11				204	18				208	25				4			
40	198	11	92	75	61	12	10	7			209	26	42	33	25	9			
50	195	11				198	18				204	26				5			
20:00	190	12				197	17				200	26							
10	194	10	80	69	59	11	10	8			204	27	39	29	20	9			
20	194	13				199	18				204	27				7			
30	192	14				196	20				205	27				6			
40	197	15	92	73	62	15	12	10			205	26	39	28	21	10			
50	196	14				200	20				204	26				7			
21:00	196	15				200	21				204	26							
10	195	15	85	72	58	14	11	9			207	26	35	22	18	9			
20	195	14				198	20				208	26				6			
30	193	14				199	19				208	26				5			
40	197	14	80	72	58	10	9	8			208	24	32	20	16	8			
50	198	14				198	20				208	26				6			
22:00	198	13				198	18				208	26							
10	198	13	90	70	59	13	11	7			210	27	32	21	17	8			
																7			

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

21 October 1964

Experiment No. 34

Tracer Release from 1920 to 2020 CST

Time (CST)	Lower Level (127 ft)				Middle Level (255 ft)				Upper Level (459 ft)								
	D		S		D		S		D		S						
	deg	mph	1	3 5	1	3 5	1	3 5	1	3 5	1	3 5					
18:30	352	11								002	21						
40	358	11								012	21						
50	004	12								014	18						
19:00	005	13	108	89	78	12	9	7		015	19	51	40	30	10	8	7
10	010	14								022	19						
20	010	11								017	17						
30	010	10	98	90	66	14	10	8		015	12	61	39	30	9	8	6
40	010	10								018	16						
50	360	10								015	17						
20:00	006	9	89	70	59	10	9	7		015	17	50	41	26	9	7	5
10	009	11								015	18						
20	008	14								015	19						
30	005	13	98	69	59	10	8	7		016	17	43	36	29	10	8	6
40	012	9								020	17						
50	011	13								028	20						
21:00	009	13	94	71	59	11	10	7		022	21	40	32	21	11	7	6
10	010	12								025	21						
20	008	13								022	21						
30	009	11	95	70	60	12	10	7		020	20	23	17	10	7	6	5
40	008	9								024	18						
50	010	11								025	18						
22:00	008	12	85	63	52	10	9	7		020	18	22	18	10	4	3	2

6 March 1965

Experiment No. 35

Tracer Release from 1230 to 1330 CST

Time (CST)	Lower Level (127 ft)				Middle Level (255 ft)				Upper Level (459 ft)								
	D		S		D		S		D		S						
	deg	mph	1	3 5	1	3 5	1	3 5	1	3 5	1	3 5					
12:00	295	13								316	14						
10	274	15								311	17						
20	275	15								309	18						
30	280	13	100	78	63	12	10	9		314	16	65	50	38	9	8	7
40	272	13								306	15						
50	286	15								308	17						
13:00	278	15	98	86	74	14	11	9		308	20	88	60	45	14	9	7
10	278	17								302	22						
20	272	14								305	21						
30	278	14	98	82	65	15	14	9		310	22	64	52	41	11	8	6
40	279	13								310	18						
50	278	15								309	18						
14:00	275	15	100	88	68	15	13	9		307	19	84	58	50	14	10	7
10	275	14								305	16						
20	286	13								309	18						
30	282	14	121	99	81	15	12	10		310	18	82	63	52	14	9	6

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

7 March 1965

Experiment No. 36

Tracer Release from 1230 to 1330 CST

Time (CST)	Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)											
	D Range			S Range		D Range			S Range		D Range			S Range								
	D	S		D	S	D	S		D	S	D	S		D	S							
12:00	deg	mph	1	3	5	1	3	5	deg	mph	1	3	5	deg	mph	1	3	5				
10	352	9							356	11				010	11							
20	350	8							359	9				010	10							
30	342	8							352	10				004	11							
40	335	10	138	122	104	11	9	7	342	11	90	76	62	7	6	6	85	70	58	9	7	6
50	002	11							358	12				018	14							
	354	13							354	15				012	14							
13:00	342	11	129	100	85	14	10	8	347	13	85	70	60	9	7	6	84	70	59	11	9	7
10	328	9							330	12												
20	330	11							339	13												
30	338	12	121	105	88	11	9	7	341	15	119	88	60	10	7	6	91	66	50	9	7	6
40	325	11							335	13												
50	342	13							346	15												
14:00	348	10	139	106	89	11	10	7	350	11	102	79	54	10	8	7	70	59	45	9	8	6
10	342	13							343	14												
20	336	12							341	14												
30	330	11	140	108	90	15	12	9	340	13	92	72	55	10	7	6	78	65	42	10	7	6

8 March 1965

Experiment No. 37

Tracer Release from 2030 to 2130 CST

Time (CST)	Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)											
	D Range			S Range		D Range			S Range		D Range			S Range								
	D	S		D	S	D	S		D	S	D	S		D	S							
20:00	deg	mph	1	3	5	1	3	5	deg	mph	1	3	5	deg	mph	1	3	5				
10	275	14							282	18				300	22							
20	278	16							284	18				302	20							
30	272	16							285	18				302	20							
40	270	15	88	66	59	16	14	11	282	17	88	65	55	16	11	8	89	50	45	11	9	9
50	269	15							282	16				302	17							
	271	14							260	15				300	17							
21:00	270	15	102	78	61	17	14	11	284	17	91	76	60	14	11	8	65	55	42	13	10	8
10	278	15							285	16												
20	272	15							285	17												
30	275	15	89	71	59	14	12	9	285	18	79	60	49	11	9	7	72	58	40	11	10	8
40	280	15							287	17												
50	272	15							288	17												
22:00	275	15	98	75	60	16	14	9	286	17	98	70	52	11	9	7	64	50	40	15	11	8
10	286	16							292	18												
20	280	16							295	17												
30	292	14	118	104	80	18	15	11	302	17	95	84	65	16	14	11	105	71	59	16	12	9
40	290	14							325	16												
50	278	12							300	15												
23:00	282	14	85	80	70	14	11	9	292	17	79	62	55	15	13	10	82	58	50	14	11	9
10	274	15							290	16												
20	280	15							290	17												
30	285	13	125	90	76	15	14	9	295	16	90	75	65	14	13	12	88	70	58	16	14	12

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

11 March 1965

Experiment No. 38

Tracer Release from 2030 to 2130 CST

Time (CST)	Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)										
	D deg	S mph	D Range			S Range	D deg	S mph	D Range			S Range	D deg	S mph	D Range			S Range			
			1	3	5				1	3	5				1	3	5		1	3	5
20:00	220	9					244	8					270	9					1	3	5
10	210	6					240	7					272	9							
20	208	6					240	7					263	9							
30	216	7	68	55	45	4	3	2					274	9	39	29	15	4	2	2	2
40	236	7					262	8					292	10							
50	255	6					282	9					308	10							
21:00	268	8	110	88	62	7	6	5					320	11	105	69	46	7	6	4	4
10	274	8					305	9					340	10							
20	308	8					322	9					349	10							
30	318	8	150	98	75	7	5	3					355	10	65	55	42	7	4	2	2
40	332	6					342	7					008	9							
50	332	6					350	9					018	10							
22:00	338	5	92	62	53	7	5	3					010	8	92	75	61	7	6	4	4
10	328	6					338	6					003	8							
20	345	7					358	7					010	9							
30	342	7	152	93	64	7	5	4					018	11	95	72	65	7	5	4	4
40	345	7					356	9					015	10							
50	348	6					359	8					021	10							
23:00	353	7	92	69	55	7	5	4					024	11	89	70	61	7	6	4	4
10	001	8					012	9					031	10							
20	358	6					010	9					028	9							
30	360	7	88	59	51	6	3	2					032	9	92	73	65	6	4	2	2

Tracer Release from 1220 to 1320 CST

Experiment No. 39

Tracer Release from 1220 to 1320 CST

Time (CST)	Lower Level (127 ft)					Middle Level (255 ft)					Upper Level (459 ft)										
	D deg	S mph	D Range			S Range	D deg	S mph	D Range			S Range	D deg	S mph	D Range			S Range			
			1	3	5				1	3	5				1	3	5		1	3	5
11:50	290	5					295	6					340	7							
12:00	336	5					348	5					350	7							
10	316	5					315	6					296	6							
20	324	6	205	180	172	7	5	5					342	6	288	249	207		6	6	6
30	290	6					315	7					338	7							
40	330	7					340	7					357	8							
50	292	6	230	182	148	8	7	6					342	8	227	148	112	8	7	6	6
13:00	288	6					304	6					332	7							
10	360	5					352	5					005	7							
20	017	5	252	198	175	7	6	6					042	7	280	196	160	7	6	5	5
30	038	7					030	7					055	7							
40	048	8					065	8					060	9							
50	310	6	312	232	184	9	7	6					290	7	313	258	230	8	6	5	5
14:00	330	2					008	4					292	5							
10	240	3					304	4					283	6							
20	250	5	250	229	207	6	5	4					255	6	265	209	175	6	5	4	4

Tracer Release from 2030 to 2130 CST

Experiment No. 38

11 March 1965

Tracer Release from 1220 to 1320 CST

Experiment No. 39

13 March 1965

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

Experiment No. 40										Tracer Release from 1100 to 1200 CST																					
Lower Level (127 ft)										Middle Level (255 ft)										Upper Level (459 ft)											
Time (CST)	D					S					D deg	S mph	D Range			S Range			D deg	S mph	D Range			S Range							
	1	3	5	1	3	5	1	3	5	1			3	5	1	3	5	1			3	5									
10:30	285	12								309	14									318	17										
40	270	14								292	14									314	15										
50	286	14								311	16									327	17										
11:00	265	14	138	120	94	15	12	9		288	15	122	104	91	16	11	9			305	16	101	85	68	14	12	8				
10	282	13								300	13									308	16										
20	270	13								291	14									318	16										
30	274	15	147	118	98	18	14	9		292	15	125	107	92	14	12	8			312	16	130	103	82	15	11	9				
40	268	13								288	15									310	16										
50	270	16								282	15									303	18										
12:00	265	16	194	129	100	21	17	13		281	18	122	103	90	21	17	15			317	23	122	98	82	22	18	16				
10	283	16								304	17									330	20										
20	276	18								299	18									322	22										
30	272	16	138	120	97	17	14	12		299	17	123	88	72	17	14	11			316	21	98	72	65	17	14	12				
40	260	18								278	19									309	22										
50	270	16								290	17									312	21										
13:00	272	14	112	97	80	18	16	14		290	18	107	78	68	16	15	12			313	21	82	72	58	16	13	12				

15 March 1965		Experiment No. 41										Tracer Release from 2050 to 2150 CST																		
Time (CST)	Lower Level (127 ft)										Middle Level (255 ft)										Upper Level (459 ft)									
	D					S					D					S					D					S				
	deg	mph	1	3	5	1	3	5	1	3	5	1	3	5	1	3	5	1	3	5	deg	mph	1	3	5	1	3	5		
20:20	309	4																			348	9								
30	314	3																			355	9								
40	314	4																			356	10								
50	312	4	69	50	36	3	2	<2													351	9	55	40	29	3	2	<2		
21:00	305	4																			355	9								
10	310	4																			360	11								
20	303	5	62	48	38	4	3	<2													360	11	42	20	20	4	2	<2		
30	315	6																			002	12								
40	321	7																			010	13								
50	318	6	79	58	49	4	3	<2													010	13	10	-	-	<2	<2	<2		
22:00	330	7																			010	14								
10	348	7																			018	14								
20	350	7	108	76	65	7	5	3													032	14	28	12	10	4	2	<2		
30	360	6																			041	14								
40	005	9																			043	15								
50	008	9	95	60	52	7	5	3													052	16	23	-	-	3	2	<2		
23:00	008	8																			050	14								
10	014	7																			058	14								
20	020	6	88	65	52	6	5	4													060	14	30	18	10	5	3	2		
30	038	4																			068	9								
40	050	2																			058	11								
50	062	3	55	32	20	3	2	<2													062	10	55	43	28	6	5	3		

Table 17 (continued). WIND MEASUREMENTS, KMOX-TV TOWER

[illegible]

TABLE 18. VERTICAL TEMPERATURE-DIFFERENCE MEASUREMENTS, KMOX-TV TOWER

Symbols

$T_r(^{\circ}\text{F})$:	Temperature at 124 feet in whole degrees Fahrenheit
ΔT_1	:	Temperature at 249 feet minus the temperature at 124 feet in degrees Fahrenheit. A temperature difference of -0.7 corresponds to the adiabatic lapse rate.
ΔT_2	:	Temperature at 452 feet minus the temperature at 124 feet in degrees Fahrenheit. A temperature difference of -1.8 corresponds to the adiabatic lapse rate.

Table 18 (continued). VERTICAL TEMPERATURE-DIFFERENCE MEASUREMENTS, KMOX-TV TOWER

Experiment No. 28 11 October 1964 Tracer Release:1105 to 1205 CST				Experiment No. 29 12 October 1964 Tracer Release:2000 to 2100 CST				Experiment No. 30 16 October 1964 Tracer Release:2000 to 2100 CST				Experiment No. 31 17 October 1964 Tracer Release:1315 to 1415 CST			
t(CST)	T _r (°F)	ΔT ₁	ΔT ₂	t(CST)	T _r (°F)	ΔT ₁	ΔT ₂	t(CST)	T _r (°F)	ΔT ₁	ΔT ₂	t(CST)	T _r (°F)	ΔT ₁	ΔT ₂
1000	69.0	-1.4	-2.5	2000	60.3	-0.6	-0.7	2000	71.8	+0.4	-0.3	1320	78.2	-0.8	-2.3
	68.8	-1.1	-3.2		60.2	-0.6	-0.6		71.8	+0.5	+0.1		78.6	-0.9	-2.0
	68.9	-1.0	-2.4		60.2	-0.5	-0.4		70.9	+0.8	+0.9		78.5	-0.9	-2.3
	68.9	-1.0	-2.4		60.1	-0.5	-0.2		70.2	+1.2	+0.8		78.2	-0.6	-2.2
	69.4	-1.4	-3.1		60.0	-0.4	-0.2		70.8	+0.7	+0.4		78.2	-0.9	-2.1
	69.3	-1.2	-2.7		60.2	-0.5	-0.4		71.1	+0.7	+0.4		78.3	-0.8	-2.2
1030	69.0	-1.2	-2.6	2030	59.8	-0.5	-0.6	2030	71.2	+0.5	+0.1	1350	78.5	-0.9	-2.0
	69.2	-1.3	-2.4		59.9	-0.5	-1.9		71.4	+0.6	+0.8		78.6	-0.8	-2.4
	69.1	-1.2	-2.4		59.9	-0.5	-1.9		71.0	+1.2	+0.1		78.6	-0.7	-2.0
	69.0	-1.2	-2.4		59.8	-0.6	-1.0		70.4	+1.4	+0.8		78.8	-0.9	-2.6
	68.8	-1.0	-3.3		59.6	-0.7	-1.5		70.2	+0.6	+1.0		79.6	-1.0	-2.4
	69.2	-1.4	-2.6		59.5	-0.8	-1.6		70.8	+0.9	+0.7		78.8	-0.9	-2.3
1100	69.0	-1.2	-2.6	2100	59.8	-0.6	-1.4	2100	70.2	+1.2	+1.3	1420	78.9	-0.8	-2.1
	69.3	-1.1	-2.6		59.5	-0.7	-1.2		69.8	+1.4	+1.2		79.1	-0.8	-2.4
	69.5	-1.3	-2.1		59.3	-0.6	-1.4		69.8	+1.4	+1.4		79.6	-0.8	-2.2
	69.1	-0.8	-2.6		59.2	-0.6	-1.4		69.8	+1.4	+1.4		79.5	-1.0	-2.3
	69.2	-1.4	-2.7		59.2	-0.6	-1.4		69.8	+1.6	+1.6		79.8	-1.0	-2.4
	69.6	-1.2	-2.3		59.2	-0.6	-1.4		69.9	+1.4	+1.4		80.0	-1.0	-2.4
1130	69.3	-1.2	-2.5	2130	59.3	-0.6	-1.4	2130	69.4	+2.3	+2.2	1450	79.5	-0.9	-2.3
	69.5	-1.4	-2.5		59.0	-0.6	-1.3		69.2	+2.1	+1.6		79.4	-0.5	-2.2
	69.4	-1.2	-2.8		58.8	-0.7	-1.2		69.4	+1.6	+1.6		80.2	-0.8	-1.9
	69.6	-1.0	-2.5		58.6	-0.7	-1.1		68.9	+2.7	+2.6		80.1	-0.8	-2.1
	69.8	-1.0	-2.5		58.4	-0.6	-1.1		68.5	+2.6	+2.6		80.6	-0.8	-2.2
	69.5	-1.1	-2.8		58.2	-0.6	-0.8		68.2	+1.8	+2.8		80.4	-0.8	-2.2
1200	69.5	-1.1	-2.6	2200	58.6	-0.6	-1.1	2200	68.9	+2.2	+2.2	1520	80.1	-0.7	-2.1
	69.6	-1.0	-2.5		58.0	-0.6	-0.8		68.0	+1.2	+2.6		80.8	-0.9	-2.2
	69.9	-1.3	-2.3		57.8	-0.6	-0.5		68.3	+1.0	+2.5		80.8	-0.8	-2.0
	69.8	-1.2	-1.8		57.8	-0.5	-0.7		68.2	+0.5	+2.6		80.5	-0.8	-2.0
	70.2	-1.2	-2.1		57.8	-0.4	-0.9		67.8	+0.8	+3.2		80.4	-0.8	-2.0
	69.5	-1.2	-2.8		57.8	-0.5	-1.0		67.6	+2.0	+3.0		80.5	-0.9	-1.9
1200	69.8	-1.2	-2.5	2230	57.8	-0.5	-0.8	2230	68.0	+1.1	+2.8	1520	80.6	-0.8	-2.0
	69.7	-0.9	-2.4		57.6	-0.5	-1.3		67.4	+2.0	+2.9		80.6	-0.8	-2.0
					57.6	-0.5	-0.8		67.4	+2.4	+4.1				
					57.5	-0.5	-0.9		66.5	+2.9	+4.3				
					57.6	-0.6	-1.0		66.2	+3.6	+4.3				
					57.3	-0.5	-2.2		66.0	+3.8	+4.5				
1200	69.5	-1.2	-2.8	2300	57.2	-0.5	-2.0	2300	66.8	+2.9	+4.1	1520	80.5	-0.9	-1.9
	69.8	-1.2	-2.5		57.5	-0.5	-1.3		66.2	+3.7	+4.0		80.5	-0.9	-1.9
					57.0	-0.5	-1.0		66.5	+3.8	+3.8		80.6	-0.8	-2.0
					56.9	-0.6	-0.8		66.8	+3.7	+4.0		80.5	-0.8	-2.0
					56.8	-0.6	-0.6		66.3	+3.8	+4.3		80.4	-0.8	-2.0
					56.8	-0.5	-0.6		66.0	+4.0	+4.4		80.5	-0.9	-1.9
1200	69.5	-1.2	-2.8	2300	56.8	-0.5	-0.9	2300	66.4	+3.8	+4.1	1520	80.5	-0.9	-1.9
	69.7	-0.9	-2.4		56.9	-0.5	-0.8		66.4	+3.8	+4.1		80.5	-0.9	-1.9
					56.9	-0.5	-0.8		66.5	+3.8	+3.8		80.6	-0.8	-2.0
					56.8	-0.5	-0.6		66.8	+3.7	+4.0		80.5	-0.8	-2.0
					56.8	-0.5	-0.6		66.3	+3.8	+4.3		80.4	-0.8	-2.0
					56.8	-0.5	-0.9		66.0	+4.0	+4.4		80.5	-0.9	-1.9

Table 18 (continued). VERTICAL TEMPERATURE-DIFFERENCE MEASUREMENTS, KMOX-TV TOWER

Experiment No. 32 19 October 1964 Tracer Release: 1945 to 2045 CST				Experiment No. 33 20 October 1964 Tracer Release: 1915 to 2015 CST				Experiment No. 34 21 October 1964 Tracer Release: 1920 to 2020 CST				Experiment No. 35 6 March 1965 Tracer Release: 1230 to 1330 CST				Experiment No. 36 7 March 1965 Tracer Release: 1230 to 1330 CST				Experiment No. 37 8 March 1965 Tracer Release: 2030 to 2130 CST			
t (CST)	T _r (°F)	ΔT ₁	ΔT ₂	t (CST)	T _r (°F)	ΔT ₁	ΔT ₂	t (CST)	T _r (°F)	ΔT ₁	ΔT ₂	t (CST)	T _r (°F)	ΔT ₁	ΔT ₂	t (CST)	T _r (°F)	ΔT ₁	ΔT ₂	t (CST)	T _r (°F)	ΔT ₁	ΔT ₂
1940	48.2	-0.8	-2.0	1910	55.8	-0.5	-1.0	1900	61.8	-0.6	-1.6	1230	33.6	-0.8	-1.8	1230	33.9	-0.8	-1.9	2030	39.2	-0.6	-2.0
	48.1	-0.7	-2.0		55.8	-0.6	-1.1		61.4	-0.8	-1.7		33.5	-0.9	-2.0		33.9	-0.9	-2.0		39.2	-0.6	-2.1
	48.0	-0.9	-2.0		55.8	-0.6	-0.8		61.0	-0.8	-1.8		33.0	-1.0	-2.0		34.0	-0.8	-2.1		39.0	-0.7	-2.1
	48.0	-0.9	-2.0		55.9	-0.5	-0.3		60.8	-0.8	-1.8		32.9	-0.9	-2.0		34.2	-0.8	-2.0		38.9	-0.7	-2.0
	48.0	-0.9	-1.9		55.8	-0.5	-0.5		60.5	-0.8	-1.8		33.1	-0.9	-2.1		34.4	-0.8	-2.0		38.8	-0.6	-2.0
	48.1	-0.8	-2.0		55.8	-0.5	-0.7		61.1	-0.8	-1.7		33.4	-0.9	-2.1		34.5	-0.9	-2.0		39.0	-0.6	-2.0
	47.8	-0.8	-1.9		55.6	-0.6	-0.9		60.0	-0.8	-1.8		33.3	-0.9	-2.0		34.2	-0.8	-2.0		38.8	-0.6	-2.0
	47.8	-0.9	-2.0		55.4	-0.6	-1.2		59.8	-0.8	-1.8		33.8	-0.9	-2.0		34.8	-0.8	-2.0		38.7	-0.7	-2.0
	47.7	-0.9	-2.0		55.0	-0.5	-0.8		59.3	-0.8	-1.8		33.9	-0.9	-2.1		34.5	-0.6	-2.0		38.6	-0.7	-2.0
	47.6	-0.9	-2.2		54.9	-0.4	0.0		58.8	-0.8	-1.7		33.9	-0.9	-2.1		34.8	-0.7	-1.9		38.5	-0.7	-2.0
	47.4	-0.8	-2.0		55.0	-0.5	-0.4		58.6	-0.8	-1.8		33.9	-0.8	-2.0		34.8	-0.8	-1.9		38.5	-0.7	-2.0
	47.2	-0.8	-2.0		55.2	-0.5	-0.7		58.2	-0.8	-1.8		33.9	-1.0	-2.2		35.0	-0.8	-1.9		38.5	-0.7	-2.0
2010	47.6	-0.8	-2.0	1940	54.8	-0.6	-0.4	1930	59.1	-0.8	-1.8	1300	33.9	-0.9	-2.1	1300	34.8	-0.7	-1.9	2100	38.2	-0.6	-2.0
	47.2	-0.9	-2.1		54.7	-0.4	-0.2		58.0	-0.8	-1.8		33.9	-1.0	-2.1		35.0	-0.8	-2.1		38.2	-0.7	-2.0
	47.1	-0.9	-1.9		54.7	-0.3	-0.6		57.8	-0.7	-1.8		33.9	-1.0	-2.1		35.0	-0.8	-2.0		38.2	-0.6	-1.9
	46.8	-0.7	-2.1		54.5	-0.5	-0.6		57.5	-0.8	-1.7		33.6	-0.9	-2.0		35.0	-0.8	-2.0		38.2	-0.6	-2.0
	47.0	-0.9	-2.1		54.2	-0.6	-0.5		57.3	-0.8	-1.7		33.8	-0.9	-2.1		34.8	-0.9	-2.0		38.2	-0.6	-2.0
	47.0	-0.8	-2.0		54.1	-0.5	0.0		57.1	-0.8	-1.8		33.6	-1.0	-2.2		34.8	-0.8	-2.0		38.2	-0.6	-2.0
2040	46.8	-0.8	-2.1	2010	54.5	-0.5	-0.4	2000	57.5	-0.8	-1.8	1330	33.8	-1.0	-2.1	1330	34.9	-0.8	-2.0	2130	38.1	-0.7	-2.0
	47.0	-0.8	-2.0		54.1	-0.4	-0.3		57.0	-0.8	-1.8		33.7	-0.9	-2.1		34.8	-0.8	-1.9		38.1	-0.7	-2.0
	46.8	-0.7	-1.9		53.9	-0.5	-0.3		56.6	-0.8	-1.8		33.8	-0.8	-2.1		34.8	-0.8	-2.0		38.1	-0.6	-2.0
	46.8	-0.8	-2.1		53.7	-0.6	0.0		56.3	-0.8	-1.8		33.8	-0.8	-2.2		35.2	-0.8	-1.9		38.0	-1.1	-2.0
	47.0	-0.9	-2.1		53.7	-0.5	-0.4		56.2	-0.8	-1.8		33.5	-0.8	-2.1		35.0	-0.7	-2.0		37.9	-0.7	-2.0
	46.9	-0.9	-2.1		53.4	-0.5	-0.4		56.0	-0.8	-1.8		33.4	-0.9	-2.0		35.3	-0.7	-1.9		37.8	-0.6	-2.0
2110	46.7	-0.8	-2.1	2040	53.8	-0.5	-0.3	2030	55.4	-0.8	-1.8	1400	33.6	-0.8	-2.1	1400	35.0	-0.8	-1.9	2200	38.0	-0.7	-2.0
	46.8	-0.8	-2.1		53.4	-0.5	-0.2		55.8	-0.8	-1.8		33.2	-0.9	-2.0		35.5	-0.8	-2.0		37.8	-0.6	-2.0
	46.8	-0.8	-2.2		53.2	-0.5	-0.3		55.5	-0.8	-1.9		33.2	-0.9	-2.1		35.3	-0.7	-2.0		37.6	-0.6	-2.0
	46.8	-0.9	-2.1		53.2	-0.5	0.0		55.2	-0.8	-1.8		33.5	-0.9	-2.1		35.6	-0.7	-2.0		37.3	-0.7	-2.0
	46.8	-0.8	-2.1		53.0	-0.5	-0.1		54.9	-0.8	-1.8		33.5	-0.9	-2.2		35.6	-0.7	-2.0		37.2	-0.7	-2.0
	46.8	-0.8	-2.0		52.9	-0.5	-0.6		54.5	-0.8	-1.8		33.6	-0.8	-2.0		35.6	-0.7	-2.0		37.1	-0.7	-2.0
2140	46.6	-0.8	-2.1	2110	53.1	-0.5	-0.2	2100	55.2	-0.8	-1.8	1430	33.4	-0.9	-2.1	1430	35.5	-0.7	-2.0	2230	37.4	-0.7	-2.0
	46.8	-0.8	-2.1		52.8	-0.5	-0.1		54.2	-0.8	-1.8		33.2	-0.9	-2.0		35.5	-0.8	-2.0		37.0	-0.7	-2.1
	46.2	-0.8	-2.0		52.8	-0.5	-0.5		53.9	-0.8	-1.8		33.2	-0.9	-2.1		35.3	-0.7	-2.0		36.8	-0.8	-2.0
	46.2	-0.8	-2.1		52.4	-0.5	-0.4		53.7	-0.8	-1.8		33.5	-0.9	-2.1		35.6	-0.7	-2.0		36.6	-0.6	-1.9
	46.0	-0.8	-2.0		52.4	-0.5	-0.6		53.5	-0.8	-1.8		33.5	-0.9	-2.2		35.6	-0.7	-2.0		36.2	-0.6	-2.0
	45.9	-0.9	-2.1		52.2	-0.6	-0.7		53.1	-0.8	-1.7		33.6	-0.8	-2.2		35.6	-0.7	-2.0		36.2	-0.6	-2.0
2210	45.8	-0.9	-2.0	2140	52.5	-0.5	-0.5	2130	53.7	-0.8	-1.8		33.4	-0.9	-2.1		35.5	-0.7	-2.0	2300	36.5	-0.7	-2.0
	46.0	-0.8	-2.0		52.0	-0.5	-0.4		52.9	-0.8	-1.8		33.4	-0.9	-2.1		35.5	-0.7	-2.0		36.1	-0.6	-2.0
	45.4	-0.9	-2.1		52.0	-0.5	0.0		52.8	-0.8	-1.8		33.4	-0.9	-2.1		35.5	-0.7	-2.0		36.1	-0.6	-2.0
	45.1	-0.9	-2.1		52.0	-0.5	0.0		52.8	-0.8	-1.8		33.4	-0.9	-2.1		35.5	-0.7	-2.0		36.0	-0.6	-2.0
	45.0	-0.9	-2.2		52.0	-0.5	-0.1		52.3	-0.8	-1.7		33.4	-0.9	-2.1		35.5	-0.7	-2.0		35.9	-0.7	-1.9
	44.8	-0.9	-2.0		52.0	-0.5	+0.6		52.1	-0.8	-1.6		33.4	-0.9	-2.1		35.5	-0.7	-2.0		35.8	-0.7	-1.9
2240	44.2	-0.8	-1.9	2210	52.0	-0.5	-0.1	2200	52.0	-0.8	-1.6		33.4	-0.9	-2.1		35.5	-0.7	-2.0	2330	35.0	-0.6	-1.9
	44.9	-0.9	-2.1		52.0	-0.5	-0.1		52.4	-0.8	-1.7		33.4	-0.9	-2.1		35.5	-0.7	-2.0		35.0	-0.6	-1.9

Experiment No. 38 11 March 1965 Tracer Release: 2030 to 2130 CST										Experiment No. 39 13 March 1965 Tracer Release: 1220 to 1320 CST										Experiment No. 40 14 March 1965 Tracer Release: 1100 to 1200 CST										Experiment No. 41 15 March 1965 Tracer Release: 2050 to 2150 CST										Experiment No. 42 16 March 1965 Tracer Release: 2030 to 2130 CST										Experiment No. 43 17 March 1965 Tracer Release: 2000 to 2100 CST									
$T_r(^{\circ}\text{F})$	ΔT_1	ΔT_2	t (CST)	$T_r(^{\circ}\text{F})$	ΔT_1	ΔT_2	t (CST)	$T_r(^{\circ}\text{F})$	ΔT_1	ΔT_2	t (CST)	$T_r(^{\circ}\text{F})$	ΔT_1	ΔT_2	t (CST)	$T_r(^{\circ}\text{F})$	ΔT_1	ΔT_2	t (CST)	$T_r(^{\circ}\text{F})$	ΔT_1	ΔT_2	t (CST)	$T_r(^{\circ}\text{F})$	ΔT_1	ΔT_2	t (CST)	$T_r(^{\circ}\text{F})$	ΔT_1	ΔT_2																													
45.2	-0.7	-1.6	2030	39.6	-0.8	-2.1	1220	39.6	-0.8	-2.1	1100	37.2	-1.1	-2.4	2050	50.6	-0.6	-1.7	2030	58.6	-0.4	-1.2	2000	32.8	-0.7	-2.1	2000	32.1	-0.7	-2.1	2030	32.1	-0.7	-2.1																									
45.2	-0.8	-1.7		39.7	-0.9	-2.7		37.8	-1.2	-2.5		50.4	-0.6	-1.6		58.4	-0.4	-1.4		32.5	-0.7	-2.1		32.5	-0.7	-2.1																																	
45.2	-0.6	-1.7		40.6	-1.2	-2.2		37.9	-1.4	-2.6		50.2	-0.6	-1.5		58.8	-0.4	-1.6		32.3	-0.7	-2.0		32.3	-0.7	-2.0																																	
45.2	-0.6	-1.6		40.6	-1.6	-2.2		36.9	-1.0	-2.5		50.2	-0.6	-1.5		58.9	-0.5	-1.7		32.2	-0.7	-2.0		32.2	-0.7	-2.0																																	
45.0	-0.6	-1.6		40.8	-0.6	-2.4		38.0	-1.2	-2.5		50.2	-0.6	-1.5		58.9	-0.5	-1.8		32.1	-0.7	-2.1		32.1	-0.7	-2.1																																	
45.2	-0.7	-1.6	2030	40.3	-0.9	-2.3	1220	37.6	-1.2	-2.5	2050	50.3	-0.6	-1.6	2030	58.4	-0.6	-1.6	2000	32.4	-0.7	-2.1	2000	32.4	-0.7	-2.1	2030	32.4	-0.7	-2.1	2030	32.4	-0.7	-2.1																									
45.0	-0.6	-1.4		41.0	-0.8	-2.4		38.0	-1.2	-2.6		50.2	-0.5	-1.5		58.7	-0.5	-1.5		32.1	-0.7	-2.1		32.1	-0.7	-2.1																																	
44.8	-0.4	-1.2		40.8	-0.6	-2.2		37.9	-1.1	-2.4		50.1	-0.5	-1.5		58.2	-0.5	-1.5		32.1	-0.8	-2.1		32.1	-0.8	-2.1																																	
44.8	-0.5	-1.5		40.4	-0.8	-2.1		38.0	-0.8	-2.4		50.1	-0.5	-1.5		58.2	-0.5	-1.5		31.8	-0.8	-2.0		31.8	-0.8	-2.0																																	
44.8	-0.5	-1.9		40.7	-1.2	-2.5		38.7	-1.1	-2.6		49.9	-0.5	-1.3		58.1	-0.5	-1.5		32.0	-0.7	-2.0		32.0	-0.7	-2.0																																	
45.0	-0.6	-1.9	2100	41.2	-1.0	-2.6	1250	39.2	-1.1	-2.3	2120	49.9	-0.5	-1.3	2100	57.9	-0.5	-1.5	2030	31.8	-0.8	-2.1	2030	31.8	-0.8	-2.1	2030	31.8	-0.8	-2.1	2030	31.8	-0.8	-2.1																									
44.9	-0.5	-1.6		40.8	-0.9	-2.4		38.4	-1.1	-2.5		50.1	-0.5	-1.3		57.8	-0.5	-1.4		31.6	-0.9	-2.1		31.6	-0.9	-2.1																																	
44.8	-0.6	-2.0		41.8	-1.2	-2.7		38.5	-1.2	-2.7		49.8	-0.5	-0.6		58.0	-0.5	-1.5		31.9	-0.8	-2.1		31.9	-0.8	-2.1																																	
44.5	-0.7	-2.0		41.2	-0.8	-2.6		38.8	-1.4	-2.6		49.8	-0.3	-0.6		57.0	-0.5	-1.3		30.8	-0.8	-2.0		30.8	-0.8	-2.0																																	
44.2	-0.7	-2.0		41.8	-1.1	-2.2		39.3	-1.2	-2.9		49.7	-0.3	-0.5		56.8	-0.4	-1.2		30.8	-0.8	-2.0		30.8	-0.8	-2.0																																	
43.9	-0.8	-2.0	2130	41.4	-0.6	-2.2	1200	39.8	-1.2	-2.6	2150	49.5	-0.3	-0.4	2130	57.0	-0.4	-1.4	2100	30.8	-0.8	-2.0	2100	30.8	-0.8	-2.0	2100	30.8	-0.8	-2.0	2100	30.8	-0.8	-2.0																									
43.8	-0.7	-2.0		41.6	-0.8	-2.4		40.0	-1.3	-2.8		49.2	-0.3	-0.3		57.0	-0.5	-1.5		30.8	-0.8	-2.0		30.8	-0.8	-2.0																																	
44.2	-0.7	-2.0		41.6	-0.9	-2.3		39.3	-1.3	-2.7		49.6	-0.3	-0.5		56.9	-0.5	-1.6		30.3	-0.8	-2.1		30.3	-0.8	-2.1																																	
43.6	-0.8	-2.0		42.8	-1.2	-2.2		40.5	-1.3	-2.8		49.2	-0.3	-0.2		55.9	-0.5	-1.4		30.7	-0.8	-2.0		30.7	-0.8	-2.0																																	
43.2	-0.6	-1.9		42.0	-1.1	-1.8		40.5	-1.4	-2.9		48.8	-0.4	-0.3		56.5	-0.6	-1.5		30.5	-0.8	-2.0		30.5	-0.8	-2.0																																	
43.1	-0.7	-1.9	2200	42.0	-0.5	-2.2	1350	42.8	-0.5	-2.2	1230	40.8	-1.4	-2.5	2220	47.3	-0.2	+0.1	2200	56.2	-0.5	-1.3	2130	29.9	-0.8	-2.1	2130	29.9	-0.8	-2.1	2130	29.9	-0.8	-2.1																									
43.0	-0.6	-1.9		42.8	-0.8	-2.4		40.8	-1.1	-2.6		48.5	-0.5	-0.1		56.6	-0.5	-1.6		30.6	-0.8	-2.1		30.6	-0.8	-2.1																																	
42.8	-0.6	-1.9		42.8	-0.8	-2.4		40.8	-1.1	-2.6		48.3	-0.5	-1.1		56.2	-0.8	-1.8		30.0	-0.8	-2.1		30.0	-0.8	-2.1																																	
42.8	-0.6	-1.9		43.7	-1.2	-2.4		40.2	-1.2	-2.5		48.1	-0.5	-0.4		56.2	-0.6	-1.5		29.6	-0.9	-2.1		29.6	-0.9	-2.1																																	
42.7	-0.7	-1.9		43.4	-0.6	-1.9		40.8	-1.2	-2.6		47.6	-0.2	0.0		56.2	-0.5	-1.4		29.0	-0.8	-2.1		29.0	-0.8	-2.1																																	
43.1	-0.7	-1.9	2200	42.8	-0.9	-2.2	1350	40.5	-1.3	-2.7	1230	40.8	-1.2	-2.6	2220	45.4	-0.4	-0.5	2200	55.3	-0.6	-1.6	2130	29.9	-0.8	-2.1	2130	29.9	-0.8	-2.1	2130	29.9	-0.8	-2.1																									
42.6	-0.8	-1.9		43.2	-0.5	-1.6		40.8	-1.4	-2.5		47.3	-0.2	+0.1		56.2	-0.5	-1.3		28.9	-0.8	-2.1		28.9	-0.8	-2.1																																	
42.6	-0.7	-1.9		43.4	-0.7	-2.3		41.2	-1.3	-2.8		47.0	-0.2	+0.3		56.2	-0.4	-1.5		28.5	-0.8	-2.1		28.5	-0.8	-2.1																																	
42.5	-0.7	-1.9		44.2	-0.9	-2.2		41.1	-1.2	-2.5		47.0	0.0	0.0		56.2	-0.4	-1.6		28.3	-0.8	-2.1		28.3	-0.8	-2.1																																	
42.3	-0.7	-1.9		44.4	-0.8	-2.2		41.6	-1.3	-2.9		47.0	0.0	-0.6		56.3	-0.5	-1.6		28.3	-0.8	-2.1		28.3	-0.8	-2.1																																	
42.1	-0.7	-1.9	2230	44.2	-0.6	-2.1	1420	41.7	-1.5	-3.5	1300	41.7	-1.5	-3.5	2250	46.8	-0.2	-0.7	2230	56.6	-0.5	-1.6	2200	28.2	-0.8	-2.1	2200	28.2	-0.8	-2.1	2200	28.2	-0.8	-2.1																									
42.4	-0.7	-1.9		43.9	-0.7	-2.1		41.3	-1.3	-2.8		47.0	-0.1	-0.2		56.3	-0.5	-1.5		28.4	-0.8	-2.1		28.4	-0.8	-2.1																																	
42.1	-0.6	-1.9		42.1	-0.5	-1.6		40.8	-1.4	-2.5		45.8	-0.4	-0.4		56.7	-0.6	-1.8		28.1	-0.8	-2.1		28.1	-0.8	-2.1																																	
42.0	-0.6	-1.9		42.0	-0.6	-1.9		41.3	-1.3	-2.8		45.3	-0.2	-0.4		56.3	-0.5	-1.8		28.1	-0.8	-2.0		28.1	-0.8	-2.0																																	
41.9	-0.6	-1.9		41.9	-0.6	-1.8		41.2	-1.2	-2.5		45.2	-0.5	-0.6		56.2	-0.5	-1.7		28.1	-0.8	-2.1		28.1	-0.8	-2.1																																	
41.9	-0.6	-1.9	2300	41.9	-0.6	-1.9	2320	44.9	-0.5	-0.6	2300	44.9	-0.5	-0.6	2320	46.8	-0.4	-0.6	2300	56.2	-0.5	-1.6	2230	27.8	-0.8	-2.0	2230	27.8	-0.8	-2.0	2230	27.8	-0.8	-2.0																									
41.9	-0.6	-1.9		41.9	-0.6	-1.9		44.8	-0.4	-0.6		44.8	-0.4	-0.6		56.2	-0.5	-1.6		27.3	-0.8	-2.1		27.3	-0.8	-2.1																																	
42.0	-0.6	-1.9		42.0	-0.6	-1.9		45.2	-0.4	-0.5		45.2	-0.4	-0.5		56.0	-0.5	-1.5		27.2	-0.8	-2.0		27.2	-0.8	-2.0																																	
41.8	-0.6	-2.0		41.8	-0.5	-1.7		44.2	-0.5	-0.6		44.2	-0.5	-0.6		56.3	-0.5	-1.7		27.8	-0.8	-2.0		27.8	-0.8	-2.0																																	
41.8	-0.6	-1.9		41.8	-0.6	-1.9		44.1	-0.3	-0.3		44.1	-0.3	-0.4		56.5	-0.5	-1.5		27.2	-0.8	-2.0		27.2	-0.8	-2.0																																	
41.3	-0.7	-2.0	2300	41.3	-0.7	-2.0	2300	43.9	-0.1	-0.2	2300	43.9	-0.1	-0.2	2300	43.9	-0.1	-0.2	2300	56.8	-0.5	-1.6	2300	27.1	-0.8	-2.0	2300	27.1	-0.8	-2.0	2300	27.1	-0.8	-2.0																									
41.2	-0.7	-2.0		41.2	-0.7	-2.0		43.8	+0.1	-0.1		43.8	+0.1	-0.1		57.0	-0.5	-1.7		27.0	-0.8	-2.0		27.0	-0.8	-2.0																																	
41.2	-0.7	-2.0		41.2	-0.7	-2.0		43.8	+0.1	-0.1		43.8	+0.1	-0.1		57.0	-0.5	-1.7		27.0	-0.8	-2.0		27.0	-0.8	-2.0																																	
41.5	-0.6	-2.0		41.5	-0.6	-2.0		44.0	-0.2	-0.3		44.0	-0.2	-0.3		56.9	-0.5	-1.7		27.1	-0.8	-2.0		27.1	-0.8	-2.0																																	
41.5	-0.6	-2.0		41.5	-0.6	-2.0		44.0	-0.2	-0.3		44.0	-0.2	-0.3		56.9	-0.5	-1.7		27.1	-0.8	-2.0		27.1	-0.8	-2.0																																	

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A program as complicated as the St. Louis Dispersion Study was possible because of the contributions and cooperative efforts of many people.

The staff at Air Resources Field Research Office, Cincinnati, Ohio, designed the field program, performed most of the duties concerned with the investigations, and accomplished the data reduction and compilation of the results of this program. To them must go a large measure of credit for its success.

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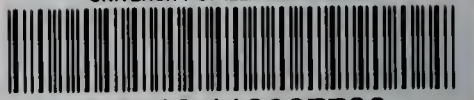
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NATIONAL AIR POLLUTION CONTROL ADMINISTRATION REPORT APTD-68-12